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SANCHEZ, CESAR
CHEN, MEI
EDWARDS, DANIEL J.

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<141> 2000-01-05

<150> 60/115,435
<151> 1999-01-06

<150> 60/118,848
<151> 1999-02-05

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aggggcagac cgggtggcgc tcgtcaatgg gcaaccgggg tggagatggc ggagggttcc 17880
ctccccggtg ctgcgggccg gagcggtagg ggtgccgctc gattccgggg ccacggacgc 17940
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cccggaggga gcggctgccg gcatccactc cttcgagcgg ctcgcggcgt cggatccggg 18120
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tgcgggcgga cgttgaggag ctgctgggcg tcccgctgct cgacggttac ggcagtaccg 18600
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<210> 3
<211> 1761
<212> DNA
<213> Streptomyces verticillus

<220>
<221> CDS
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<222> (245)..(982)

<400> 3
ggatcctgcg ctacccggac ttcgcccagt ggtgcggcac cgagctcacc gccgactggc 60

acgtccgctt ccgggccgcc gccgcggtct acgggcatct gcacatcccc cgcgtgaccc 120

ggtacgacgg cgtccgcttc gaggaggtgt cggtcggcta cccgcgcgag tggcggcccc 180

ggccgccccg cgagccgctc cggcagatcc tgccccagcc cgtcgacgag ccgggagccc 240

tctg gtg atc gcc gcc ctc ctg ccc tcc tgg gcc gtc acc gaa cac gcc   289
     Met Ile Ala Ala Leu Leu Pro Ser Trp Ala Val Thr Glu His Ala
     1   5   10   15

ttc acc gac gcc ccg gac gac ccg gtg agc ctc ctc ttc ccc gag gag   337
Phe Thr Asp Ala Pro Asp Asp Pro Val Ser Leu Leu Phe Pro Glu Glu
                20   25   .   30

gcc gcc cac gtc gcc cgc gcc gtc ccc aag cgc ctg cac gag ttc gcc   385
Ala Ala His Val Ala Arg Ala Val Pro Lys Arg Leu His Glu Phe Ala
            35   40   45

acc gtc cgg gtg tgc gcc cgc gcc gcc ctc ggc cgg ctg ggc ctc ccg   433
Thr Val Arg Val Cys Ala Arg Ala Ala Leu Gly Arg Leu Gly Leu Pro
        50   55   60

ccc ggt ccg ctg ctg ccc ggc cga cgg ggc gcg ccg agc tgg ccg gac   481
Pro Gly Pro Leu Leu Pro Gly Arg Arg Gly Ala Pro Ser Trp Pro Asp
    65   70   75

ggg gtg gtg ggg agc atg acg cac tgt cag ggc ttc cgg ggc gcc gcg   529
Gly Val Val Gly Ser Met Thr His Cys Gln Gly Phe Arg Gly Ala Ala
80   85   90   95

gtc gcc cgg gcc gcc gac gcc gcg tcg ctc ggg ata gac gcc gag ccg   577
Val Ala Arg Ala Ala Asp Ala Ala Ser Leu Gly Ile Asp Ala Glu Pro
                100   105   110

aac ggg ccg ctc ccg gac ggc gtc ctc gcc atg gtc tcg ctg ccg tcc   625
Asn Gly Pro Leu Pro Asp Gly Val Leu Ala Met Val Ser Leu Pro Ser
            115   120   125

gag cgc gag tgg ctc gcc gga ctg gcg gcc cgc cgg ccg gac gtg cac   673
Glu Arg Glu Trp Leu Ala Gly Leu Ala Ala Arg Arg Pro Asp Val His
        130   135   140

tgg gac cgg ctg ctg ttc agc gcc aag gag agc gtc ttc aag gcg tgg   721
Trp Asp Arg Leu Leu Phe Ser Ala Lys Glu Ser Val Phe Lys Ala Trp
    145   150   155

tac ccg ctg acc ggc ctg gag ctg gac ttc gac gag gcc gag ctg gcc   769
Tyr Pro Leu Thr Gly Leu Glu Leu Asp Phe Asp Glu Ala Glu Leu Ala
160   165   170   175

gtc gat ccg gac gcc ggg acg ttc acg gcc cgg ctg ctg gtg ccg gga   817
Val Asp Pro Asp Ala Gly Thr Phe Thr Ala Arg Leu Leu Val Pro Gly
            180   185   190

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ccg gtg gtc ggc ggc cgt cgg ctg gac ggg ttc gag ggg cgc tgg gcg    865
Pro Val Val Gly Gly Arg Arg Leu Asp Gly Phe Glu Gly Arg Trp Ala
        195                 200                 205

gcg ggc gag ggc ctc gtc gtc acg gcc atc gcc gtc gcg gcg ccg gcc    913
Ala Gly Glu Gly Leu Val Val Thr Ala Ile Ala Val Ala Ala Pro Ala
        210                 215                 220

ggt acc gcg gag gaa tcg gcg gaa ggg gcc ggg aag gaa gcg act gcg    961
Gly Thr Ala Glu Glu Ser Ala Glu Gly Ala Gly Lys Glu Ala Thr Ala
        225                 230                 235

gac gac cgg acc gcc gtc ccg taaaccgccc cgaacaccgg cgtggcgccc      1012
Asp Asp Arg Thr Ala Val Pro
240                 245


gccgaccgtg tcgggggcgc cacgaacggg cgccggcccg gcgggccctc cgccgtgcgg 1072

agcggaggcc cggcgcggac gcgcccggtg tcgtcggata cgtgcgtcag tcggcgacgc 1132

agacgttgcc gttggtcgag ttgagcagcc cgacgatgtc gatggtgttg ccgcagaggt 1192

tgatggggat gtggacgggg atctggatga cgttgcccga gacgacgccc ggggagccga 1252

cggccgcccc cttggcgttc gagtcggcga gggcggtgcc ggagacgccg gcgagcgccg 1312

tgcccacggt ggcggtgagg ccgctgcct tggcgattcg tgacatgggg tgacaccttc 1372

gttcggtctg acagggtcga gctcacggcc tctgacggcc gggagcccgg atcaacgccc 1432

gatcaccccg aaggtttcga atcgtgcggc ggacgggtga ccggcggccg aacggcctcg 1492

ccgggccccc ggaaggtgcc atgacgtccg tgcgccatct gtacagcccg gtcccgcgcc 1552

gcgtacaagg gacggacgga cggccggtgg acggacgacc ggcggggagg ggaggccatg 1612

agccggatcg cgatcgtcgg ggcgggtcag gccggactgc atctggcgct ggggctgctg 1672

ggggcgggga gcggctcttc ccgtcacgag gtgctgctcg tgtccgacgg gacgccggac 1732

gagatccgcg ccgggcgggt gcggtcgac                                   1761
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<210> 4
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Illustrative
     motif

<220>
<221> MOD_RES
<222> (3)..(5)
<223> Variable amino acid

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<400> 4
His His Xaa Xaa Xaa Asp Gly
  1               5


<210> 5
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 5
atgagccacg ccatcgga                                           18


<210> 6
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 6
tcaggcgcgt tcgggggc                                           18


<210> 7
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 7
gtgaacaccg acctgccc                                           18


<210> 8
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 8
tcatggggtg tctccctc                                           18


<210> 9
<211> 18
<212> DNA
<213> Artificial Sequence
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<220>
<223> Description of Artificial Sequence: Primer

<400> 9
atgagcgccc cgcggggc                                         18


<210> 10
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 10
tcaccggtcc cgctcccc                                         18


<210> 11
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 11
atgagcgccg acccgtcc                                         18


<210> 12
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 12
tcatgagcgg gccgccgt                                         18


<210> 13
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 13
atgaccaccc ccatgacc                                         18


<210> 14
<211> 18
<212> DNA
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<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 14
tcatggggta ctcctgat   18

<210> 15
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 15
atgaccacga ccccgcgg   18

<210> 16
<211> 18
<212> DNA
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<220>
<223> Description of Artificial Sequence: Primer

<400> 16
tcaggtgccg gacacgcg   18

<210> 17
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 17
gtgaccgccc ccggcaca   18

<210> 18
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 18
tcatcggtgg ctcctcgt   18

<210> 19

<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 19
gtgaaccggc acggcccc   18

<210> 20
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 20
tcacgcgctc acctcgtc   18

<210> 21
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 21
gtgacgagcg cccggccc   18

<210> 22
<211> 18
<212> DNA
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<220>
<223> Description of Artificial Sequence: Primer

<400> 22
tcacggggcc tccgtgcg   18

<210> 23
<211> 18
<212> DNA
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<220>
<223> Description of Artificial Sequence: Primer

<400> 23
atgctgcacg gcgccgcg   18

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<210> 24
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<212> DNA
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<220>
<223> Description of Artificial Sequence: Primer

<400> 24
tcactccggt ccacctcc                                                    18


<210> 25
<211> 18
<212> DNA
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<220>
<223> Description of Artificial Sequence: Primer

<400> 25
gtgaggcccg tgtgcggc                                                    18


<210> 26
<211> 18
<212> DNA
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<220>
<223> Description of Artificial Sequence: Primer

<400> 26
tcagccaccg ttgccgcc                                                    18


<210> 27
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 27
gtgaaggacc tcggccgg                                                    18


<210> 28
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 28
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tcactcccccc ggtgccgg   18

<210> 29
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 29
gtgacatgga ccgtggtg   18

<210> 30
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 30
tcaggcatcg gccctccc   18

<210> 31
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 31
atgcgcgggc atgacgac   18

<210> 32
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 32
tcacggtgtc tctccctc   18

<210> 33
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

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<400> 33
atgagccggc cggccggc                                              18


<210> 34
<211> 18
<212> DNA
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<220>
<223> Description of Artificial Sequence: Primer

<400> 34
tcatgctcgg tcatcgcc                                              18


<210> 35
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 35
gtgaccacgc cccgcatc                                              18


<210> 36
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 36
tcattcggga cgcgggca                                              18


<210> 37
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 37
atgagccatg ccgacgcg                                              18


<210> 38
<211> 18
<212> DNA
<213> Artificial Sequence
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<220>
<223> Description of Artificial Sequence: Primer

<400> 38
tcacagcacc acctcttc   18

<210> 39
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 39
atgaccccgg ccgccgac   18

<210> 40
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 40
tcatcgtccg ccgccttt   18

<210> 41
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 41
atgcctcggt gtgcccga   18

<210> 42
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 42
tcattcggcg gcacctcc   18

<210> 43
<211> 18
<212> DNA

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 43
gtgggtttcc gtcgagcg   18

<210> 44
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 44
ttacaccctc cgtttctc   18

<210> 45
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 45
atggcacagg acctgaac   18

<210> 46
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 46
tcaacgccac cggatctt   18

<210> 47
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 47
gtgagctccc tcgccgtc   18

<210> 48

<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 48
tcatcgtcgg gcactcgg   18

<210> 49
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 49
gtgccggttc cgctgtat   18

<210> 50
<211> 18
<212> DNA
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<220>
<223> Description of Artificial Sequence: Primer

<400> 50
tcaccgggca ctgacctc   18

<210> 51
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 51
gtgaccgaga accttccg   18

<210> 52
<211> 18
<212> DNA
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<220>
<223> Description of Artificial Sequence: Primer

<400> 52
tcagaccttc ttgaccac   18

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<210> 53
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 53
atggcctcag acgctttg                                          18        .


<210> 54
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 54
tcattgagac tcctcctc                                          18


<210> 55
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 55
atgatgaagt caagccgc                                          18


<210> 56
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 56
tcagtggctt acaaggag                                          18


<210> 57
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 57
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atgactgacc tgccgttg   18

<210> 58
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 58
tcacaccagc agcgaggt   18

<210> 59
<211> 18
<212> DNA
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<220>
<223> Description of Artificial Sequence: Primer

<400> 59
atggatttcc ccctcacc   18

<210> 60
<211> 18
<212> DNA
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<220>
<223> Description of Artificial Sequence: Primer

<400> 60
tcatgcccct acctcggc   18

<210> 61
<211> 18
<212> DNA
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<220>
<223> Description of Artificial Sequence: Primer

<400> 61
atgaccgcgc gcgtcgac   18

<210> 62
<211> 18
<212> DNA
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<220>
<223> Description of Artificial Sequence: Primer

<400> 62
tcactcctcg gcttcggc   18

<210> 63
<211> 18
<212> DNA
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<220>
<223> Description of Artificial Sequence: Primer

<400> 63
gtgtccaaga acgcggcg   18

<210> 64
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 64
tcatcggctc gcctcgtg   18

<210> 65
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 65
atgaccctca ccctgcgg   18

<210> 66
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 66
tcactcgggc actccttc   18

<210> 67
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 67
gtgaccggtt ccgtaacg   18

<210> 68
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 68
tcatgagtcc gccgaggt   18

<210> 69
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 69
atgacagagg tccgaggt   18

<210> 70
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 70
cccggcaacc gccctccc   18

<210> 71
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 71
gtgatcgccg ccctcctg   18

<210> 72
<211> 18
<212> DNA

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 72
ttacgggacg gcggtccg   18

<210> 73
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<220>
<221> modified_base
<222> (19)
<223> a, t, c or g

<220>
<221> modified_base
<222> (22)
<223> a, t, c or g

<400> 73
cggcatggtc ggctcchtnc ancaytg   27

<210> 74
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<220>
<221> modified_base
<222> (20)
<223> a, t, c or g

<220>
<221> modified_base
<222> (26)
<223> a, t, c or g

<400> 74
tgcagcagaa caggaggckn ycccankg   28

<210> 75
<211> 26
<212> DNA
<213> Artificial Sequence

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<220>
<223> Description of Artificial Sequence: Primer

<220>
<221> modified_base
<222> (18)
<223> a, t, c or g

<400> 75
tgggtcagcg ggtaccanrc yttrwa                                    26


<210> 76
<211> 32
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 76
aacccatggc tgcttccctg acccgcctgg cc                            32


<210> 77
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 77
cctagatcta cgggcaggtg gggcggt                                  27


<210> 78
<211> 32
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 78
gggaattcca tatgatcctc acgtccttcc ac                            32


<210> 79
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 79
ggcaagcttg ggtgagggtc cgttcggt                                 28
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<210> 80
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Illustrative
      motif

<220>
<221> MOD_RES
<222> (4)
<223> Variable amino acid

<400> 80
Leu Gly Gly Xaa Ser
  1               5


<210> 81
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Illustrative
      motif

<220>
<221> MOD_RES
<222> (4)
<223> Variable amino acid

<400> 81
Leu Gly Gly Xaa Ser
  1               5


<210> 82
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 82
ccgcccatgg gtgctccgcg tggcgagcgg acccggcgc                      39


<210> 83
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
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<223> Description of Artificial Sequence: Primer

<400> 83
tgccccctcg ccctggcctc tagatcc   27

<210> 84
<211> 31
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 84
ggaattccat atgggcacca ccgtcgccgc g   31

<210> 85
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 85
cgcgaggtgc gggccagggt tcgaacgg   28

<210> 86
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: "THC" motif

<220>
<221> MOD_RES
<222> (2)
<223> Variable amino acid

<220>
<221> MOD_RES
<222> (5)
<223> Variable amino acid

<220>
<221> MOD_RES
<222> (7)..(8)
<223> Variable amino acid

<220>
<221> MOD_RES
<222> (11)
<223> Met or Leu

<220>
<221> MOD_RES
<222> (15)
<223> Variable amino acid

<400> 86
Pro Xaa Trp Pro Xaa Gly Xaa Xaa Gly Ser Xaa Thr His Cys Xaa Gly
 1   5   10   15

Tyr

<210> 87
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: (V/I)G(V/I)D motif

<220>
<221> MOD_RES
<222> (1)
<223> Val or Ile

<220>
<221> MOD_RES
<222> (3)
<223> Val or Ile

<400> 87
Xaa Gly Xaa Asp
 1

<210> 88
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<220>
<221> modified_base
<222> (20)
<223> A, C, T or G

<220>
<221> modified_base
<222> (26)
<223> A, C, T or G

<400> 88
tgcagcagaa caggaggckn ycccankg   28

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<210> 89
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<220>
<221> modified_base
<222> (18)
<223> A, T, C or G

<400> 89
tgggtcagcg ggtaccanrc yttrwa                                          26


<210> 90
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<220>
<221> modified_base
<222> (19)
<223> A, T, C or G

<220>
<221> modified_base
<222> (22)
<223> A, T, C or G

<400> 90
cggcatggtc ggctcchtna cncaytg                                         27


<210> 91
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Illustrative
      motif

<220>
<221> MOD_RES
<222> (1)
<223> Phe or Trp

<220>
<221> MOD_RES
<222> (2)
<223> Ser, Cys or Thr
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<220>
<221> MOD_RES
<222> (3)
<223> Variable amino acid

<220>
<221> MOD_RES
<222> (6)
<223> Ala or Ser

<400> 91
Xaa Xaa Xaa Lys Glu Xaa His His Lys
  1               5


<210> 92
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: NAD/FAD
      binding motif

<220>
<221> MOD_RES
<222> (2)
<223> Variable amino acid

<220>
<221> MOD_RES
<222> (4)..(5)
<223> Variable amino acid

<220>
<221> MOD_RES
<222> (7)..(9)
<223> Variable amino acid

<220>
<221> MOD_RES
<222> (11)..(16)
<223> Variable amino acid

<400> 92
Gly Xaa Gly Xaa Xaa Gly Xaa Xaa Xaa Gly Xaa Xaa Xaa Xaa Xaa Xaa
  1               5                   10                  15

Gly


<210> 93
<211> 113
<212> PRT
<213> Streptomyces verticillus

<220>
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<223> ORF30

<400> 93
Met Pro Val Pro Leu Tyr Gln Ala Lys Ala Glu Phe Phe Arg Met Leu
 1   5   10   15

Gly His Pro Val Arg Ile Arg Val Leu Glu Leu Leu Gln Asp Gly Pro
             20   25   30

Met Pro Val Arg Asp Leu Leu Ala Ala Ile Glu Ile Glu Pro Ser Ala
         35   40   45

Leu Ser Gln Gln Leu Ala Val Leu Arg Arg Ser Gly Ile Val Thr Ser
     50   55   60

Thr Arg Thr Gly Ser Thr Val Val Tyr Glu Leu Ala Gly Gly Asp Val
 ·65   70   75   80

Ala Glu Leu Met Ser Ala Ala Arg Arg Ile Leu Thr Glu Met Leu Asn
                 85   90   95

Gly Gln His Glu Leu Leu Glu Glu Leu Arg Glu Ala Glu Val Ser Ala
             100   105   110

Arg

<210> 94
<211> 582
<212> PRT
<213> Streptomyces verticillus

<220>
<223> ORF29

<400> 94
Met Ser Ser Leu Ala Val Arg Val Gly Ala Arg Val Arg Ser Val Leu
 1   5   10   15

Pro Thr Arg Ala Asp Leu Ala Gly Met Gly Arg Ser Pro Arg Arg Asp
             20   25   30

Leu Leu Ala Gly Leu Thr Val Ala Ile Val Ala Leu Pro Leu Ala Leu
         35   40   45

Gly Phe Gly Val Ser Ser Gly Leu Gly Ala Glu Ala Gly Leu Ala Thr
     50   55   60

Ala Val Val Ala Gly Ala Leu Ala Ala Val Phe Gly Gly Ser Asn Leu
 65   70   75   80

Gln Val Ser Gly Pro Thr Gly Ala Met Thr Val Val Leu Val Pro Ile
                 85   90   95

Val Ala Arg Tyr Gly Pro Gly Gly Val Leu Thr Val Gly Leu Leu Ala
             100   105   110

Gly Leu Met Leu Ile Ala Leu Ala Leu Ala Arg Ala Gly Arg Tyr Met
        115   120   125

Gln Tyr Val Pro Ala Pro Val Val Glu Gly Phe Thr Leu Gly Ile Ala
        130   135   140

Cys Val Ile Gly Leu Gln Gln Val Pro Asn Ala Leu Gly Val Ala Lys
145   150   155   160

Pro Glu Gly Asp Lys Val Leu Val Val Thr Trp Arg Ala Val Glu Thr
            165   170   175

Phe Ala Gly Ala Pro Asn Trp Thr Ala Ala Gly Leu Ala Ala Ala Val
        180   185   190

Ala Ala Val Met Leu Thr Gly Ala Arg Trp Arg Pro Val Val Pro Phe
        195   200   205

Ser Leu Leu Ala Val Thr Gly Ala Thr Val Val Ala Gln Leu Cys His
    210   215   220

Leu Asp Ala Ala Arg Pro Ile Gly Asp Leu Pro Ala Gly Leu Pro Ala
225   230   235   240

Pro Ser Leu Ala Phe Leu Asp Leu Gly Ala Leu Gly Ser Leu Leu Ala
        245   250   255

Pro Ala Val Ala Val Ala Ala Leu Ala Ala Leu Glu Ser Leu Leu Ser
        260   265   270

Ala Ser Val Ala Asp Gly Met Thr Val Gly Gln Lys His Asp Pro Asp
        275   280   285

Lys Glu Leu Phe Gly Gln Gly Leu Ala Asn Leu Ala Ala Pro Leu Phe
    290   295   300

Gly Gly Val Pro Ala Thr Gly Ala Ile Ala Arg Thr Ala Val Asn Val
305   310   315   320

Arg Thr Gly Ala Ser Ser Arg Leu Ala Ala Leu Thr His Ala Ala Ile
            325   330   335

Leu Ala Val Ile Val Phe Ala Ala Ala Pro Leu Val Ser Arg Ile Pro
        340   345   350

Leu Ala Ala Leu Ala Gly Val Leu Ile Ala Thr Ala Ile Arg Met Val
        355   360   365

Glu Val Gly Ser Leu Arg Ala Met Ala Arg Ala Thr Arg Ser Asp Gly
    370   375   380

Leu Val Leu Ile Leu Thr Ala Val Ala Thr Val Ala Leu Asp Leu Val
385   390   395   400

Tyr Ala Val Ile Ile Gly Leu Leu Val Ala Gly Ala Leu Ala Leu Arg
            405   410   415

```
Ala Val Ala Lys Gln Val Arg Leu Asp Gln Val Ser Leu Lys Glu Asp
            420             425             430

Leu Thr Gly Asp His Ser Ala Glu Glu His Ala Leu Leu Ala Glu His
            435             440             445

Ile Val Ala Tyr Arg Ile Asp Gly Pro Leu Phe Phe Ala Ala Ala His
    450             455             460

Arg Phe Leu Leu Glu Leu Ser Asp Val Ala Asp Val Arg Val Val Ile
465             470             475             480

Leu Arg Met Ser Arg Val Thr Thr Met Asp Ala Thr Gly Ala Leu Val
            485             490             495

Leu Lys Asp Ala Val Thr Lys Leu Asn Arg Arg Gly Ile Thr Val Leu
            500             505             510

Ala Ser Gly Val Arg Pro Gly Gln Arg Arg Val Leu Asp Ser Val Gly
            515             520             525

Ala Leu Gly Leu Leu Arg Ala Ala Thr Gly Asp Asp Tyr Thr Gly Thr
    530             535             540

Pro Glu Ala Ile Ala Ala Ala Arg Ser His Leu His Gly Ala Gly Val
545             550             555             560

Leu Ala Pro Ala Cys Pro Gly Pro Pro Pro Val Pro Pro Pro Cys
            565             570             575

Ala Pro Ser Ala Arg Arg
            580
```

<210> 95
<211> 239
<212> PRT
<213> Streptomyces verticillus

<220>
<223> ORF28

<400> 95
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Met Ala Gln Asp Leu Asn Asp Trp Ile Glu Asp Glu Val Val Pro Tyr
  1             5              10              15

Glu Glu Lys Pro Leu Glu Trp Ile Ser Gln Tyr His Phe Phe Arg Asp
            20              25              30

Pro Ala Arg Ala Ala Tyr Val Asp His Thr Tyr Phe Phe Ser Pro Ala
            35              40              45

Asp Gly Ala Ile Val Tyr Gln Lys Val Val Asp Pro Gln Glu Ser Ile
    50              55              60

Ile Asp Ile Lys Gly Lys Pro Tyr Ser Leu Ala Ala Ala Leu Arg Asp
65              70              75              80
```

Glu Ser Phe Gly His Arg Cys Leu Val Ile Gly Ile Phe Met Thr Phe
                85   90   95

Phe Asp Val His Ile Asn Arg Met Pro Tyr Gly Gly Arg Leu Ser Phe
            100   105   110

Ala Leu Lys Glu Pro Ile Gly Thr Phe Asn Leu Pro Met Leu Ala Met
        115   120   125

Glu Gln Asp Leu Leu Glu Arg Leu Arg Val Asn Pro Ala His Ala Arg
    130   135   140

Tyr Leu His Leu Asn Glu Arg Met Val Asn Arg Val Asp Ala Pro Arg
145   150   155   160

Leu Arg Gly Pro Tyr Trp Met Leu Gln Ile Ala Asp Tyr Asp Val Asp
            165   170   175

Ser Ile Thr Pro Phe Cys Arg Arg Gln Gly Met Phe Arg Ser Gln Gly
            180   185   190

Arg Arg Phe Ser Gln Ile Arg Tyr Gly Ser Gln Val Asp Leu Val Ile
        195   200   205

Pro Met Ala Ala Asp Arg Glu Tyr Val Pro Val Glu Ala Val Gly Arg
    210   215   220

His Val Lys Ala Gly Leu Asp Pro Leu Val Lys Ile Arg Trp Arg
225   230   235

<210> 96
<211> 688
<212> PRT
<213> Streptomyces verticillus

<220>
<223> ORF27

<400> 96
Met Gly Phe Arg Arg Ala Gln Arg Ala Gly Gly Pro Gly Ala Gly Arg
  1   5   10   15

Arg Glu Ser Ala Arg Phe Arg Pro Asp Gly Pro Ser Ala Pro Arg Asp
                20   25   30

Arg Pro Leu Pro Leu Ser Ala Gly Gln Leu Phe Glu Trp Val Phe Asp
            35   40   45

Lys Leu Val Asp Gly Asp Leu Ser His Gln Pro Thr Ile Val Arg Leu
        50   55   60

Arg Gly Pro Leu Asn Thr Ala Ala Leu Arg Met Ala Tyr Ala Arg Leu
65   70   75   80

Val Arg Arg His Glu Cys Leu Arg Thr Arg Phe Pro Val Ile Asp Gly
                85   90   95

```
Glu Pro Val Gln Val Ile Glu Gly Ile Gly Lys Ala Ala Gly Gly Pro
            100                 105                 110

Leu Pro Leu Ile Asp Leu Arg His Leu Pro Glu Ala Leu Arg Ala Arg
            115                 120                 125

Glu Ile Ala Arg Ile Arg Glu Glu Thr Leu Ser Thr Pro Val Pro Phe
    130                 135                 140

Asp Lys Arg Pro Pro Val Arg Val Ala Leu Ile Arg Ala Ala Pro Glu
145                 150                 155                 160

Glu His Leu Phe Leu Val Gly Ile Pro His Ile Thr Ala Asp Leu Trp
            165                 170                 175

Ser Ala Thr Leu Leu Asn Asp Glu Leu Met Ala His Tyr Arg Ala Gly
            180                 185                 190

Ala Glu Gly Thr Pro Ser Arg Ala Pro Thr Pro Val Ala Gln Tyr Ala
            195                 200                 205

Asp Phe Ala Gln Trp Gln Arg Ala Trp Trp Asn Arg Asp Arg Thr Glu
    210                 215                 220

Arg Glu Ala Gly Arg Trp Arg Ala Arg Leu Asp Gly Leu Ser Ala Val
225                 230                 235                 240

Glu Leu Pro Leu Asp Arg Pro Arg Pro Ala Gly Arg Arg Arg Asp Cys
            245                 250                 255

Phe Leu Ile Gly Asp Thr Phe Asp Ala Glu Leu Ser Asp Arg Leu Arg
            260                 265                 270

Ala Leu Ala Arg Thr Ala Asp Val Thr Leu Tyr Val Val Leu Leu Ala
            275                 280                 285

Ala Phe His Trp Leu Val Gly Arg Met Ser Gly Ala Gly Arg Leu Val
    290                 295                 300

Thr Thr Ser Leu Val Ala Ala Arg His Gly Ser Ala Val Gln Gly Met
305                 310                 315                 320

Thr Gly Pro Phe Ser Asp Tyr Leu Ala Leu Val Gly Asp Leu Ser Gly
            325                 330                 335

Asp Pro Asp Phe Leu Glu Ser Leu Arg Arg Val Arg Asp Glu Cys Leu
            340                 345                 350

Thr Ala His Asp His Gln Arg Leu Pro Phe Ser Gln Val Leu Glu Val
            355                 360                 365

Met Asp Pro Gly Arg Glu Leu His Pro His Pro Leu Glu Gln Leu Gly
    370                 375                 380

Phe Asn Leu His Asn Ile Pro Pro Ala Val Met Asp Phe Ser Gly Asp
385                 390                 395                 400
```

Val Val Val Ser Ala Val Asn Pro Glu Gly Asp Asp Gly Glu Ser Gly
            405   410   415

Asp Gly Glu Tyr Val Pro Trp Thr Ala Asp Leu Thr Phe Asp Val Tyr
            420   425   430

Asp Tyr Gly Thr Gly His Met Pro Phe Asp Val Ile Leu Asp Arg Arg
            435   440   445

Leu Ala Asp Pro Ala Thr Ala Arg Glu Trp Ala Gly His Tyr Arg Ser
    450   455   460

Val Leu Arg Ala Val Val Ala Asp Pro Gly Val Arg Leu Ser Ala Leu
465   470   475   480

Gly Thr Leu Leu Ser Leu Pro Arg Pro Pro Ser Ala Thr Ser Phe Gly
            485   490   495

Gly Arg Glu Ile Asp Val Arg Arg Val Glu Arg Glu Leu Ala Gly Arg
            500   505   510

Asp Gly Ile Thr Ala Ala Leu Val Ala Val Ala Pro Arg Arg Leu Ala
            515   520   525

Thr Gly Leu Arg Val Arg Glu Leu Val Ala Tyr Cys Ala Val Glu Gly
    530   535   540

Thr Pro Arg Pro Asn Ala Ala His Asp Ile Arg Gly Arg Leu Arg Glu
545   550   555   560

Arg Leu Pro Asp Gly Trp Val Pro Thr Val Phe Val Glu Arg Pro Pro
            565   570   575

Glu Glu Ile Arg Lys Ala Leu Ala Ala Arg Ala Ala Gly Gly Glu Arg
            580   585   590

Ala Glu Pro Leu Pro Pro Pro Glu Asp Cys Val Pro Leu Pro Glu Glu
    595   600   605

Gly Arg Pro Pro Ser Asp Pro Ser Glu Arg Arg Leu Ala Ala Leu Trp
    610   615   620

Ala Glu Ile Leu Gly Ala Pro Pro Lys Ser Val Thr Glu Pro Phe Phe
625   630   635   640

Arg Val Gly Val Thr Asp Lys Asp Ala Leu Arg Phe Leu Ala Arg Val
            645   650   655

Ala Glu Asp Phe Gly Val Thr Val Pro Phe Ala Asp Phe Leu Ser Ala
            660   665   670

Pro Asn Leu Arg Met Val Lys Asp Asn Leu Ala Glu Lys Arg Arg Val
            675   680   685

<210> 97
<211> 2162
<212> PRT

<213> Streptomyces verticillus

<220>
<223> ORF26

<400> 97

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Met Pro Arg Cys Ala Arg Gly Ala Leu Ser Thr Ala Val His Thr Thr
 1               5                  10                  15

Arg Gln Gly Ser Trp Asn Val Met Glu Thr Ala Asn Ser Gly Tyr Arg
            20                  25                  30

Val Ser Pro Gln Gln Arg His Leu Trp Ala Met Leu Thr Arg Gly Arg
        35                  40                  45

Asp Gly Gly Arg Arg Ala Phe Thr Gln Ser Ala Val Val Val Asp Arg
    50                  55                  60

Ser Leu Asp Ala Ala Arg Leu Arg Ala Ala Leu Ala Ser Val Val Ala
65                  70                  75                  80

Ala His Glu Pro Leu Arg Thr Thr Phe Thr Gly Leu Ala Gly Arg Thr
                85                  90                  95

Ala Pro Val Gln Val Val His Asp Pro Asp Glu Gln Pro Leu Ser Val
            100                 105                 110

Val Asp Leu Pro Pro Ser Cys Ala Asp Gly Ser Gly Pro Glu Leu Asp
        115                 120                 125

Glu Leu Arg Leu Arg Glu Arg Ala Ala Leu Asp Pro Arg Gly Gly Pro
    130                 135                 140

Val Phe Arg Ala Ala Leu Ala Arg Ala Gly Glu Asp Arg Ala Val Leu
145                 150                 155                 160

Val Leu Thr Ala His Ala Leu Val Ala Asp Arg Leu Ser Leu Arg Leu
                165                 170                 175

Leu Ala Gly Gln Ile Leu Ala Ala Tyr Ser Gly Glu Thr Val Ser Pro
            180                 185                 190

Asp Gly Pro Pro Pro Leu Gln Tyr Ala Asp Phe Ala Ala Trp His His
        195                 200                 205

Asp Leu Leu Thr Ala Glu Asp Ala Ala Pro Asp Arg Ala His Trp Ala
    210                 215                 220

Ala His Thr Ala Thr Ala Gly Thr Gly Pro Leu Pro Gly Val Val Arg
225                 230                 235                 240

Pro Gly Ala Ala Pro Gly Pro Trp Arg Ala Arg Glu Trp Glu Leu Pro
                245                 250                 255

Ala Glu Leu Val Ala Gly Ile Asp Gly Val Ala Gly Lys Leu Ser Thr
            260                 265                 270
```

Asp Pro Ala Thr Val Leu His Ala Ala Phe Arg Ile Ala Val Trp Arg
     275   280   285

Leu Ala Gly Glu Arg Asn Leu Pro Val Ala Leu Thr Arg Asp Gly Arg
     290   295   300

Ser His Pro Glu Leu Arg Thr Ala Ile Gly Ala Phe Glu Arg Glu Leu
305   310   315   320

Pro Leu Val His Glu Ile Arg His Glu Thr Ala Phe Ala Glu Tyr Ala
          325   330   335

Arg Ala Leu Asp Ala Leu Val Ala Glu Gly Glu Glu Leu Leu Asp His
          340   345   350

Cys Asp Pro Glu Leu Leu Gly Ser Leu Asp Gly Thr Ala Glu Gly Pro
          355   360   365

Cys Phe Thr Phe Thr His His Gln Ala Glu Thr Pro Val Arg Arg Ala
          370   375   380

Gly Ile Thr Phe Thr Thr Val His Gln Asp Ser Gly Thr Pro Ile Pro
385   390   395   400

Val Arg Leu Thr Ala Arg Arg Asp Gly Ala Arg Leu Arg Met Glu Leu
          405   410   415

Gly Tyr Asp Glu Gly Arg Ile Asp Glu Thr Phe Pro Glu Asn Ala Ala
          420   425   430

Ala Cys Leu Thr Arg Ile Leu Glu Gly Val Val Ser Ala Pro Glu Gly
          435   440   445

Pro Val Gly Asp Ile Arg Met Leu Ser Asp Glu Thr Ala Arg Leu Leu
     450   455   460

Arg Glu Ala Gly Leu Gly Pro Arg Val Glu Leu Pro Gly Lys Ala Val
465   470   475   480

His Glu Leu Phe Ala Glu Gln Ala Ala Arg Thr Pro Gly Ala Val Ala
          485   490   495

Val Ser Ala Gly Glu Asp Ala Leu Thr Tyr Ala Glu Leu Asp Glu Arg
          500   505   510

Ser Asn Arg Leu Ala His His Leu Thr Gly Leu Gly Val Thr Pro Gly
          515   520   525

Arg His Val Val Val Ser Val Gly Arg Ser Ala Glu Leu Leu Val Gly
     530   535   540

Leu Leu Gly Val Leu Lys Ala Gly Gly Ala Phe Val Pro Val Asp Val
545   550   555   560

Gly Phe Pro Arg Lys Arg Leu Glu Phe Val Leu Arg Glu Thr Ala Ala
          565   570   575

Pro Val Leu Leu Cys Thr Ala Asp Val Arg Asp Arg Ile Gly Thr Arg
            580   585   590

Thr Leu Asp Asp Ala Gly Val Thr Pro Val Ala Leu Asp Ala Asp Arg
        595   600   605

Arg Arg Ile Ala Ala His Pro Ala Gly Pro Thr Gly Ile Ala Thr Thr
    610   615   620

Pro Asp Ala Pro Ala Tyr Val Val Tyr Thr Ser Gly Thr Thr Gly Lys
625   630   635   640

Pro Asn Gly Val Arg Val Pro His Arg Gly Leu Thr Asn Tyr Leu Thr
            645   650   655

Trp Cys Thr Gly Ala Tyr Gly Leu Asp Gly Gly Thr Gly Thr Leu Val
            660   665   670

His Thr Ser Ile Ser Phe Asp Leu Thr Leu Thr Thr Leu Phe Gly Pro
        675   680   685

Leu Leu Ala Gly Gly Gln Val Val Met Leu Ser Glu Thr Ala Gly Val
    690   695   700

Thr Gly Leu Ile Ala Ala Leu Arg Ser Arg Arg Asp Leu Thr Leu Val
705   710   715   720

Lys Leu Thr Pro Thr His Leu Asp Val Val Asn Gln Leu Leu Thr Pro
            725   730   735

Asp Glu Leu Arg Gly Ala Val Arg Thr Leu Val Val Gly Gly Glu Ala
            740   745   750

Val Arg Ala Glu Ser Leu Glu Pro Phe Arg Ala Ser Gly Thr Arg Val
    755   760   765

Val Asn Glu Tyr Gly Pro Ser Glu Thr Val Val Gly Ser Val Ala His
    770   775   780

Val Val Asp Ala Ala Thr Pro Arg Thr Gly Pro Val Pro Ile Gly Arg
785   790   795   800

Pro Ile Ala Asn Thr Thr Val His Leu Leu Asp Gln Arg Arg Arg Pro
            805   810   815

Val Pro Asp Gly Val Val Gly Glu Leu Trp Ile Gly Gly Ala Gly Val
            820   825   830

Ala Asp Gly Tyr Leu Gly Arg Pro Glu Leu Thr Gly Glu Arg Phe Leu
        835   840   845

Pro Ser Asp Tyr Pro Pro Asp Gly Gly Arg Val Tyr Arg Thr Gly Asp
    850   855   860

Leu Ala Arg Arg Arg Ala Asp Gly Thr Leu Glu Tyr Leu Gly Arg Thr
865   870   875   880

Asp Ala Gln Val Lys Ile Arg Gly Val Arg Val Glu Pro Ala Glu Thr
              885   890   895

Glu Ala Val Leu Ala Ser His Pro Gly Val Gly Gln Ala Val Val Val
              900   905   910

Ala Arg Leu Asp Glu Asp Pro Gly Arg Ser Ser Pro Leu Ala Gly Glu
      915   920   925

Leu Thr Leu Thr Gly Tyr Val Val Pro Ala Arg Gly Ala Gln Ala Pro
    930   935   940

Pro His Glu Glu Leu Ile Ala Tyr Cys Arg Glu Arg Leu Pro Glu His
945   950   955   960

Phe Val Pro Ala Val Leu Val Thr Leu Asp Ala Leu Pro Val Thr Gly
              965   970   975

His Gly Lys Ile Asp Arg Gly Ala Leu Pro Lys Pro His Ala Arg Ala
          980   985   990

Arg Asp Gly Ala Ala Tyr Val Ala Pro Arg Thr Ala Thr Glu Glu Ile
      995   1000   1005

Leu Ala Ala Thr Val Ala Lys Val Leu Gly Val Glu Arg Val Gly Ile
    1010   1015   1020

Asp Asp Asn Tyr Phe Val Leu Gly Gly Asp Ser Ile Arg Ser Val Met
1025   1030   1035   1040

Val Ala Ser Arg Ala Gln Ala Arg Gly Val Glu Val Thr Val Ala Asp
          1045   1050   1055

Leu His Arg His Pro Thr Val Arg Ala Cys Ala Ala His Leu Asp Ala
          1060   1065   1070

Arg Glu Asp Leu Pro Arg Thr Pro Val Thr Glu Pro Phe Ala Leu Ile
        1075   1080   1085

Ser Ala Glu Asp Arg Ala Leu Val Pro Asp Asp Val Glu Asp Ala Phe
    1090   1095   1100

Pro Leu Asn Leu Leu Gln Glu Gly Met Ile Phe His Arg Asp Phe Ala
1105   1110   1115   1120

Ala Lys Ser Ala Val Tyr His Ala Ile Ala Ser Val Arg Leu Arg Ala
          1125   1130   1135

Pro Phe Asp Leu Ala Val Leu Arg Met Val Val Arg Gln Leu Val Glu
        1140   1145   1150

Arg His Pro Met Leu Arg Thr Ser Phe Asp Met Ser Arg Phe Ser Arg
        1155   1160   1165

Pro Leu Gln Leu Val His Arg Glu Phe Ala Asp Pro Leu His Tyr Glu
    1170   1175   1180

Asp Leu Arg Gly Arg Ser Ala Glu Glu Gln Asp Ala Arg Val Glu Glu
1185   1190   1195   1200

Trp Ile Glu Arg Glu Lys Glu Arg Gly Phe Glu Leu His Glu Phe Pro
            1205   1210   1215

Leu Ile Arg Phe Met Ala Gln Arg Leu Glu Asp Asp Val Phe Gln Phe
        1220   1225   1230

Thr Tyr Gly Phe His His Glu Ile Val Asp Gly Trp Ser Glu Ala Leu
        1235   1240   1245

Met Ile Thr Glu Leu Phe Ser His Tyr Phe Ser Val Ile Tyr Asp Glu
    1250   1255   1260

Pro Ile Ala Ile Lys Pro Pro Thr Ala Gly Met Arg Asp Ala Val Ala
1265   1270   1275   1280

Leu Glu Leu Glu Ala Leu Ala Asp Arg Arg Asn Tyr Glu Phe Trp Asp
            1285   1290   1295

Ser Tyr Leu Ala Asp Ala Thr Leu Met Arg Leu Pro Arg Pro Gly Thr
        1300   1305   1310

Gly Pro Arg Ala Asp Lys Gly Asp Arg Asp Ile Thr Arg Ile Ala Val
    1315   1320   1325

Pro Val Pro Thr Glu Leu Ser Asp Gly Leu Lys Arg Val Ala Ala Thr
    1330   1335   1340

His Ala Val Pro Leu Lys Thr Val Leu Leu Ala Ala His Met Val Val
1345   1350   1355   1360

Met Ser Leu Tyr Gly Gly His Glu Asp Thr Leu Thr Tyr Thr Val Thr
            1365   1370   1375

Asn Gly Arg Pro Glu Thr Ala Asp Gly Ser Thr Ala Ile Gly Leu Phe
        1380   1385   1390

Val Asn Ser Leu Ala Leu Arg Val Arg Met Thr Gly Gly Thr Trp Ala
        1395   1400   1405

Asp Leu Ile Thr Ala Thr Leu Glu Ser Glu Arg Ala Ser Met Pro Tyr
    1410   1415   1420

Arg Arg Leu Pro Met Ala Glu Leu Lys Arg His Gln Gly Asn Glu Pro
1425   1430   1435   1440

Leu Ala Glu Thr Leu Phe Phe Phe Thr Asn Tyr His Val Phe His Val
        1445   1450   1455

Leu Asp Arg Trp Ile Asp Arg Gly Val Gly His Val Ala Asn Glu Leu
        1460   1465   1470

Tyr Gly Glu Ser Thr Phe Pro Phe Cys Gly Ile Phe Arg Leu Asn Arg
    1475   1480   1485

```
Glu Thr Gly Glu Leu Glu Val Arg Ile Glu Tyr Asp Ser Leu Gln Phe
    1490                1495                1500

Ser Asp Ala Leu Met Glu Ser Val Arg Asp Ser Tyr Ala Arg Val Leu
1505                1510                1515                1520

Ala Ala Leu Val Ala Asp Pro Asp Gly Arg Tyr Asp Arg His Glu Phe
            1525                1530                1535

Arg Ser Asp Arg Asp Arg Ala Ala Leu Ala Val Leu Thr Arg Gly Pro
            1540                1545          . 1550

Glu Ala Pro Ala Ala Asp Arg Cys Leu His Asp Leu Val Ala Asp Arg
        1555                1560                1565

Ala Ala Asp Arg Pro Asp Ala Pro Ala Val Gln Leu Asp Thr Asp Val
    1570                1575                1580

Leu Ser Tyr Gly Glu Leu Asp Arg Arg Ala Asn Arg Leu Ala His His
1585                1590                1595                1600

Leu Arg Ser Leu Gly Ile Gly Pro Glu Ser Val Val Gly Val Leu Ala
            1605                1610                1615

Glu Arg Ser Leu Ala Gln Ile Ile Gly Leu Leu Ala Val Leu Lys Ala
            1620                1625                1630

Gly Ala Ala Tyr Val Pro Leu Asp Pro Ala Gln Pro Asp Glu Arg Leu
        1635                1640                1645

Ala Ala Val Ile Ala Gly Ser Gly Ala Ala Ala Val Leu His Arg Pro
    1650                1655                1660

Gly Leu Glu Gly Arg Leu Pro Ala Gly Val Arg Ala Leu Pro Thr Asp
1665                1670                1675                1680

Ala Ala Asp Gly Ser Thr Ala Thr His Asp Pro Gly Pro Thr Ala Thr
            1685                1690                1695

Pro Arg Asn Ala Ala Tyr Val Met Tyr Thr Ser Gly Ser Thr Gly Glu
        1700                1705                1710

Pro Lys Gly Ile Val Val Glu His Arg Asn Val Val Ala Ser Leu Ala
        1715                1720                1725

Ala Arg Gly Ala His Tyr Ala Ala Gly Pro Gly Arg Phe Leu Leu Leu
    1730                1735                1740

Ser Ser Phe Ala Phe Asp Ser Ser Val Ala Gly Ile Phe Trp Thr Leu
1745                1750                1755                1760

Thr Gln Gly Gly Thr Leu Val Leu Pro Gly Glu Gly Gln Gln Leu Asp
            1765                1770                1775

Pro Ala Ala Leu Val Glu Thr Ile Ala Arg Gln Arg Pro Thr His Thr
        1780                1785                1790
```

Leu Ala Ile Pro Ser Leu Leu Ala Pro Val Leu Asp Gln Ala Ala Pro
    1795   1800   1805

Gly Asp Leu Ala Ser Leu Arg Thr Val Ile Ala Ala Gly Glu Ser Cys
    1810   1815   1820

Pro Ala Glu Leu Ala Ala Ala Cys Arg Asp Leu Leu Pro Gly Ser Thr
1825   1830   1835   1840

Phe His Asn Glu Tyr Gly Pro Thr Glu Thr Thr Val Trp Ser Thr Val
      1845   1850   1855

Trp Ser Gln Glu Asn Glu His Asp Gly Pro His Leu Pro Ile Gly Arg
      1860   1865   1870

Pro Val Ala Gly Thr Trp Val His Pro Arg Asp His Arg Gly Arg Thr
    1875   1880   1885

Val Pro Leu Gly Val Ala Gly Glu Leu Ser Ile Gly Gly Ala Gly Val
    1890   1895   1900

Ala Arg Gly Tyr Leu Gly Arg Pro Arg Asp Thr Ala Ala Ala Phe Arg
1905   1910   1915   1920

Pro Asp Pro Glu Ala Thr Ala Pro Gly Gly Arg Ala Tyr Ala Thr Gly
      1925   1930   1935

Asp Leu Gly Arg Tyr Leu Pro Asp Gly Asn Leu Glu Phe Leu Gly Arg
      1940   1945   1950

Ala Asp His Gln Val Lys Ile Arg Gly Phe Arg Val Glu Leu Gly Glu
      1955   1960   1965

Ile Glu Ala Val Leu Asp Thr His Pro Glu Leu Gln Arg Thr Ile Val
    1970   1975   1980

Met Ala Arg Gly Asp His Pro Gly Asp Gln Val Leu Val Ala Tyr Val
1985   1990   1995   2000

Leu Pro Ala Pro Gly Arg Arg Pro Glu Pro Ala Asp Ile Gln Gly Tyr
      2005   2010   2015

Val Arg Asp Arg Leu Pro Arg Tyr Met Val Pro Thr Ala Val Ile Val
      2020   2025   2030

Leu Asp Ala Val Pro Leu Thr Ala Ala Gly Lys Val Asp Arg Ala Ser
    2035   2040   2045

Leu Pro Ala Pro Ser His Ala Gln Leu Thr Arg Asp Gln Glu Tyr Val
    2050   2055   2060

Glu Pro Gly Thr Asp Thr Glu Arg Ala Leu Ala Ala Ile Trp Ala Asp
2065   2070   2075   2080

Val Leu Lys Leu Asp Arg Ile Gly Ala Gly Asp Arg Phe Phe Asp Val
      2085   2090   2095

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Gly Gly Glu Ser Leu Arg Ala Met Gln Ala Thr Ala Ala Ala Asn Lys
        2100            2105            2110

Met Phe Arg Thr Arg Val Ser Val Arg Arg Leu Phe Glu Ala Pro Ser
        2115            2120            2125

Leu Arg Glu Phe Ala His Glu Ile Asp Lys Ala Arg Leu Ala Gly Gly
    2130            2135            2140

Gly Thr Gly Leu Thr Gly Pro Ala Ala Ala Pro Ala Thr Gly Gly Ala
2145            2150            2155            2160

Ala Glu
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<210> 98
<211> 1066
<212> PRT
<213> Streptomyces verticillus

<220>
<223> ORF25

<400> 98
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Met Thr Pro Ala Ala Asp Thr Thr His Pro Leu Ser Pro Ala Gln Arg
 1               5               10              15

Ser Met Trp Phe Leu His Arg Leu Ala Pro Glu Val Pro Ala Tyr Asn
            20              25              30

Ile Cys Thr Ala Ile Glu Leu Thr Gly Thr Pro Arg Pro Ala Ala Leu
        35              40              45

Arg Asp Val Val Arg Arg Leu Gly Arg Arg His Glu Ala Leu Arg Thr
    50              55              60

Val Phe Pro Ser Val Gly Glu Thr Pro Arg Gln Arg Val Thr Asp Arg
 65              70              75              80

Ala Ala Pro Leu Arg Thr Val Asp Leu Thr His Leu Thr Pro Ala Ala
            85              90              95

Ala Glu Ala Glu Thr Ala Arg Thr Leu Arg Cys Ala Ala Ala Arg Pro
            100             105             110

Phe Arg Leu Asp Thr Gly Pro Leu Ala Glu Trp Thr Leu Leu Arg Arg
        115             120             125

Ala Pro Gly His Ala Leu Leu Val Leu Ser Val His His Ile Val Phe
    130             135             140

Asp Gly Gly Ser Leu His Val Val Cys Arg Glu Leu Glu Glu Ala Tyr
145             150             155             160

Gly Ala Ala Leu Ala Gly Arg Pro Asp Pro Leu Gly Thr Pro Ala Pro
            165             170             175
```

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Gly Tyr Gly Arg Gln Cys Arg Thr Arg Ala Ala Glu Gln Asp Glu Ala
            180             185             190

Gly Arg Glu Phe Trp Arg Arg Glu Leu Ser Gly Ala Pro Pro Arg Thr
            195             200             205

Thr Val Phe Arg Gly Thr Gly Arg Pro Ala Gly Pro Pro Ala Arg Ala
    210             215             220

Thr Val His Tyr Gly Thr Asp Asp Pro Ala Pro Thr Ala Asp Phe Cys
225             230             235             240

Arg Glu His Ala Val Thr Gly Tyr Val Leu Leu Leu Ala Ala Leu Ala
            245             250             255

Cys Leu Val Ala Arg Tyr Thr Gly Arg Thr Asp Val Val Ile Gly Ser
            260             265             270

Pro Val Gly Leu Arg Glu Asp Pro Glu Gly Leu Ala Thr Val Gly Pro
            275             280             285

Met Leu Asn Leu Leu Pro Leu Arg Leu Arg Leu His Gly Asp Pro Gly
    290             295             300

Phe Gly Glu Val Leu Ala Arg Thr Arg Glu Thr Leu Leu Gly Ala Leu
305             310             315             320

Glu His Arg Thr Thr Pro Phe Glu Asp Ile Val Asp Ala Val Gly Ala
            325             330             335

Asp Arg Asp Pro Asp Val Ser Pro Leu Phe Gln Ile Leu Phe Ala His
            340             345             350

Glu Arg Pro Pro Ala Pro Pro Ala Leu Pro Gly Val Arg Ala Arg Val
            355             360             365

Val Pro Val Pro Ala Pro Ala Ala Lys Tyr Glu Leu Ala Val Thr Ala
    370             375             380

Thr Glu Thr Pro Asp Gly Leu Arg Leu Ile Val Glu Ala Glu His Gly
385             390             395             400

His Gly Glu Pro Ala Glu Leu Ala Ala Phe Ala Arg His Phe Gly Val
            405             410             415

Leu Leu Ala Ala Gly Val Arg Ala Pro Asp Thr Pro Leu Ser Arg Leu
            420             425             430

Pro Leu Leu Thr Asp Glu Glu Arg Arg Arg Leu Thr Asp Thr Thr Ala
            435             440             445

Pro Arg Thr Ala Pro Glu Ala Pro Tyr Arg Pro Leu His Arg Leu Val
    450             455             460

Glu Glu Ser Ala Ala Arg Arg Pro Asp Ala Leu Ala Val Val Gly Gly
465             470             475             480
```

Thr Arg His Leu Ser Tyr Arg Glu Leu Asn Cys Arg Ala Asn Arg Arg
              485   490   495

Ala Ala Trp Leu Arg Arg Ala Gly Ile Gly Thr Glu Asp Val Val Gly
          500   505   510

Val Arg Leu Glu Arg Gly Pro Glu Leu Leu Val Ser Leu Leu Ala Val
     515   520   525

Leu Lys Ala Gly Ala Ala Tyr Leu Pro Val Asp Pro Ala Leu Pro Ala
     530   535   540

Glu Arg Val Arg Leu Met Leu Asp Asp Ala Arg Ala Ala Leu Leu Leu
545   550   555   560

Thr Glu Thr Ala Leu Gly Thr Pro Pro Ala Pro Ala Gly Thr Pro Val
          565   570   575

His His Val Asp Gly Pro Pro Pro Thr Arg Pro Gly Asp Asp Ala
        580   585   590

Asp His Thr Gly Pro Asp Leu Pro Thr Ser Leu Ala Tyr Leu Leu Tyr
     595   600   605

Thr Ser Gly Ser Thr Gly Arg Pro Lys Ala Val Ala Leu Gln His Asp
     610   615   620

Ser Ala Ala Ala Phe Leu Arg Trp Ala Gly Arg Ala Phe Asp Gly Gly
625   630   635   640

Glu Leu Ala Ala Val Leu Ala Thr Thr Ser Ala Gly Phe Asp Leu Ser
          645   650   655

Val Phe Glu Leu Phe Ala Pro Leu Ala His Gly Gly Thr Val Val Leu
          660   665   670

Ala Asp Ser Ala Leu His Val Pro Ala Leu Pro Trp Ala Pro Ala Ala
        675   680   685

Thr Leu Leu Asn Thr Val Pro Ser Ala Ala Ala Leu Leu Asp Ala
     690   695   700

Asp Gly Leu Pro Asp Gly Leu Thr Ala Val Asn Leu Ala Gly Glu Pro
705   710   715   720

Leu Thr Ala Glu Leu Val Ala Arg Leu His Ala Arg Leu Pro Lys Ala
          725   730   735

Ala Val Arg Asn Leu Tyr Gly Pro Ser Glu Ala Thr Thr Tyr Ala Thr
        740   745   750

Ala Ala Leu Val Pro Ala Gly Gly Thr Glu Ala Pro Ala Ile Gly Arg
        755   760   765

Ala Leu Gly Ala Ala Arg Val Trp Thr Ala Asp Asp Arg Gln Arg Pro
     770   775   780

```
Leu Pro Gly Ala Val Val Gly Glu Leu Leu Ile Gly Gly Thr Ala Pro
785             790             795             800

Ala Arg Gly Tyr Leu Gly Arg Pro Gly Pro Thr Ala Asp Ala Phe Arg
            805             810             815

Pro Asp Pro Thr Gly Pro Pro Gly Ser Arg Leu Tyr Arg Thr Gly Asp
            820             825             830

Leu Ala Val Arg Arg Pro Asp Gly Arg Phe Val Phe Leu Gly Arg Lys
            835             840             845

Asp Glu Gln Ile Lys Leu Arg Gly Val Arg Ile Glu Pro Gly Glu Val
    850             855             860

Glu Ala Ala Leu Arg Gln Cys Ala Pro Val Ala Ala Ala Ala Val Val
865             870             875             880

Leu Ala Gly Thr Thr Ala Glu Asn His Arg Leu Val Gly Phe Val Thr
            885             890             895

Pro Ser Pro Gly Ala Arg Val Asp Pro Glu Arg Thr Leu Ala Ala Leu
            900             905             910

Arg Ser Arg Leu Pro Ala Ala Leu Val Pro Ala Ala Leu Val Val Cys
            915             920             925

Asp Ala Leu Pro Leu Thr Ala Asn Gly Lys Thr Asp Arg Ala Ala Leu
    930             935             940

Ala Arg Arg Ala Arg Gly His Arg Pro Asp His Gly Ala Tyr Ala Pro
945             950             955             960

Pro Arg Thr Arg Val Glu Lys Ala Val Ala Ala Ile Trp Arg Glu Val
            965             970             975

Leu Gly Thr Glu Arg Val Gly Ile His Gln Gly Phe Phe Asp Ala Gly
            980             985             990

Gly Thr Ser Leu Ser Leu Leu Arg Leu His His Arg Leu Val Ala Ser
            995             1000            1005

Val His Pro Gly Leu Arg Leu Ala Asp Val Phe Arg Leu Pro Thr Val
    1010            1015            1020

Ala Ala Leu Ala Ala Phe Val Asp Gly Gln Glu Asp Ala Arg Glu Thr
1025            1030            1035            1040

Ala Val Gly Asp Ala Ala Leu Arg Ala Gly Arg Arg Arg Ala Ala Val
            1045            1050            1055

Ala Ala Arg Arg Arg Lys Gly Gly Gly Arg
            1060            1065
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<210> 99
<211> 1841

<212> PRT
<213> Streptomyces verticillus

<220>
<223> ORF24

<400> 99

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Met Ser His Ala Asp Ala Gly Asp Gly Leu Asp Ala Ala Asp Thr Thr
 1               5                  10                  15

Asp Ala Ala Asp Gly Ile Ala Val Ile Ser Leu Gly Gly Arg Phe Pro
                20                  25                  30

Gly Ala Asp Arg Val Asp Arg Leu Trp Thr Asn Leu Leu Asp Arg Glu
            35                  40                  45

Asp Ala Ile Ser His Phe Thr Ala Asp Glu Arg Leu Ala Arg Gly Arg
        50                  55                  60

Asp Pro Glu Leu Val Arg His Pro Arg Phe Val Gly Ala Glu Gly Val
65                  70                  75                  80

Leu Gly Asp Val Ser Leu Phe Asp Ala Glu Phe Phe Gly Cys Ser Pro
                85                  90                  95

Arg Glu Ala Glu Val Met Asp Pro Gln His Arg Leu Cys Leu Glu Glu
            100                 105                 110

Ala Trp His Val Phe Asp Thr Ala Gly Tyr Asp Pro Ala Ala Thr Gly
        115                 120                 125

Thr Ala Val Gly Val Phe Leu Ser Ala Ser Leu Ser Ser Tyr Leu Ile
    130                 135                 140

Arg Asn Val Leu Pro Gly Gly Ala Ala Gln Arg Leu Leu Gly Gly Phe
145                 150                 155                 160

Pro Leu Leu Ile His Asn Asp Lys Asp Phe Leu Ala Thr Thr Val Ser
                165                 170                 175

His Lys Leu Gly Leu Thr Gly Pro Ser Tyr Ala Val Gly Ser Ala Cys
            180                 185                 190

Ser Ser Ser Leu Val Ala Val His Leu Ala Cys Gln Ser Leu Leu Thr
        195                 200                 205

Glu Glu Cys Asp Met Ala Leu Ala Gly Gly Val Ser Leu Gln Val Pro
    210                 215                 220

Gln Gly Gln Gly Tyr Val His Ala Asp Asp Gly Ile Tyr Ser Pro Asp
225                 230                 235                 240

Gly Arg Cys Ala Pro Phe Asp Ala Gly Ala Ala Gly Thr Val Gly Gly
            245                 250                 255

Ser Gly Val Gly Leu Val Leu Leu Lys Arg Leu Ala Asp Ala Val Arg
        260                 265                 270
```

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Asp Gly Asp Arg Val His Ala Val Ile Leu Gly Ser Ala Val Asn Asn
        275             280             285

Asp Gly Ala Asp Lys Val Gly Tyr Thr Ala Pro Gly Val Thr Gly Gln
        290             295             300

Ser Ala Val Val Ala Glu Ala Leu Ala Val Ala Gly Ile Ser Ala Ala
305             310             315             320

Thr Val Gly Val Leu Glu Ala His Gly Thr Gly Thr Arg Leu Gly Asp
            325             330             335

Pro Val Glu Val Ala Ala Leu Thr Arg Ala Phe Arg Ala His Thr Asp
        340             345             350

Arg Ser Gly Phe Cys Ala Leu Gly Ser Val Lys Ala Asn Val Gly His
        355             360             365

Leu Asp Ala Ala Ala Gly Val Thr Gly Leu Ile Lys Ala Val Leu Ala
        370             375             380

Val Arg Glu Gly Val Ile Pro Gly Thr Pro His Tyr Arg Ser Pro Asn
385             390             395             400

Pro Ala Ile Asp Phe Ala Thr Thr Pro Phe Tyr Val Thr Ala Asp Thr
            405             410             415

Leu Ala Trp Pro Glu Ala Asp His Pro Arg Arg Ala Gly Val Ser Ser
            420             425             430

Phe Gly Ile Gly Gly Thr Asn Ala His Val Ile Leu Glu Gln Ala Pro
            435             440             445

Pro Ala Ala Pro Arg Ala Asp Arg Thr Ala Gly Val Pro Met Pro Leu
        450             455             460

Val Val Ser Ala Arg Thr Arg Glu Ala Leu Ala Glu Ala Val Arg Asp
465             470             475             480

Leu Ala Ala Trp Ser Ala Pro Glu Pro Gly Thr Arg Leu Ala Asp Leu
            485             490             495

Ala Ala Thr Leu Ala Gly Arg Arg Ala Phe Pro Tyr Arg Ala Ala Val
            500             505             510

Val Cys His Asp Leu Pro Glu Ala Ala Arg Leu Leu Gly Gly Ala Arg
        515             520             525

Gly Glu Thr Ala Leu Pro Gly Arg Glu Ala Val Phe Leu Phe Pro Gly
        530             535             540

Gln Gly Thr Leu Pro Pro Asp Thr Gly Arg Gly Leu Tyr Ala Asp Val
545             550             555             560

Pro Ala Phe Arg Ala His Phe Asp Ala Cys Ala Glu Gly Phe Ala Pro
            565             570             575
```

Leu Gly Thr Asp Leu His Ala Ala Leu Gly Ala Pro Ala Asp Asp Thr
            580   585   590

Arg Ala Ala Gln Pro Ala Leu Phe Ala Val Glu Tyr Ala Leu Ala Arg
        595   600   605

Thr Leu Met Asp Trp Gly Val Arg Pro Ala Ala Met Leu Gly His Ser
    610   615   620

Leu Gly Glu Tyr Val Ala Ala Thr Leu Ala Gly Val Leu Ser Leu Pro
625   630   635   640

Asp Ala Leu Thr Leu Val Arg Ala Arg Ala Glu Ala Gln His Thr Met
            645   650   655

Pro Pro Gly Arg Met Leu Ala Val Pro Leu Thr Pro Asp Asp Leu Arg
            660   665   670

Pro Leu Leu Pro Pro Glu Val Glu Phe Ser Ala Phe Asn Ala Pro Gly
        675   680   685

Arg Cys Val Val Gly Gly Pro Pro Glu Pro Val Ala Glu Leu Arg Ala
    690   695   700

Arg Leu Ala Arg Arg Gly Val Pro Ala Ala Glu Leu Ala Thr Ala His
705   710   715   720

Ala Phe His Ser Ala Ala Val Glu Pro Leu Leu Asp Gly Phe Arg Gly
            725   730   735

Val Leu Glu Gly Val Arg Leu Arg Pro Pro Arg Leu Arg Tyr Val Ser
            740   745   750

Ser Leu Thr Gly Asp Trp Ala Asp Ala Ala Val Thr Thr Pro Ala Tyr
        755   760   765

Trp Leu Ala His Leu Arg Arg Pro Val Arg Phe Ala Asp Gly Leu Arg
    770   775   780

Arg Cys Leu Asp Leu Gly Pro Val Ala Leu Val Glu Thr Gly Pro Arg
785   790   795   800

Ala Gly Leu Thr Gly Leu Ala Arg Arg Ala Ala Gly Pro Gly Glu Pro
            805   810   815

Pro Tyr Thr Val Arg Cys Leu Ala Ala Pro Asp Glu Ala Ala Ser Leu
            820   825   830

Thr His Ala Val Ala Val Leu Trp Arg Ser Gly Cys Ala Val Asp Trp
        835   840   845

Thr Ala Phe His Arg Pro Gly Arg Pro Arg Arg Thr Thr Val Pro Gly
    850   855   860

Tyr Pro Phe Gln Arg Val Arg His Trp Ile Asp Ala Pro Asp Glu Ser
865   870   875   880

Glu Pro Thr Asp Leu Ala Thr Ala Leu Arg Ala Glu Leu Arg Thr Asp
          885   890   895

Gly Asp Pro Pro Leu Ala Val Asp Gln Arg Pro Gly Leu Arg Thr Gly
          900   905   910

Leu Asn Arg Leu Cys Ala Ala Leu Ala Arg Asp Tyr Leu Ala Thr Gly
          915   920   925

Val Glu Ala Ser Gly Val Leu Pro Gly Phe His Arg Phe Leu Asp Tyr
          930   935   940

Leu Arg Thr Leu Ala Ala Ser Ala Pro Ala Ala Asp Asp Ala Gly Thr
945   950   955   960

Ile Ala Ala Glu Ile Thr Ala Ala His Pro Ser Phe Ser Gly Leu Val
          965   970   975

Asp Leu Leu Arg His Cys Ala Gln Gly Tyr Pro Arg Ala Leu Ser Thr
          980   985   990

Pro Gly Ala Ala Leu Asp Val Leu Tyr Pro Ala Gly Ser Gly Asp Leu
          995   1000   1005

Leu Arg Arg Thr Leu Gly Glu Gly Thr Ala Asp His Arg Ala Thr Gly
     1010   1015   1020

Arg Leu Thr Arg Leu Ala Gly Ser Leu Leu Asp Arg Leu Ala Ala Asp
1025   1030   1035   1040

Arg Glu Pro Gly Arg Pro Leu Arg Val Leu Glu Ala Gly Ala Gly Ala
         1045   1050   1055

Gly Ser Leu Thr Gln Ala Leu Val Thr Arg Ala Pro Gly Arg Leu Asp
        1060   1065   1070

Tyr His Ala Thr Asp Ile Ser Arg His Phe Val Thr Ala Leu Gly Arg
        1075   1080   1085

Glu Ala Ala Arg Arg Gly Leu Asp Phe Val Arg Ala Arg Val Leu Asp
     1090   1095   1100

Ile Ala Arg Asp Pro Gly Glu Gln Gly Phe Ala Gly Glu Arg Phe Asp
1105   1110   1115   1120

Val Val Cys Gly Leu Asp Val Val His Ala Thr Pro Asp Leu Arg Thr
        1125   1130   1135

Thr Leu Gly His Leu Arg Ser Leu Met Ala Pro Asp Gly Thr Leu Ala
        1140   1145   1150

Leu Ile Glu Thr Thr Ala Asp Asp Pro Trp Leu Thr Met Ile Trp Gly
        1155   1160   1165

Leu Thr Asp Gly Trp Trp His His Thr Asp Arg Arg Thr His Gly Pro
     1170   1175   1180

Leu Leu Asp Ala Ala Gly Trp Arg Ala Leu Leu Ala Gly Glu Asp Phe
1185   1190   1195   1200

Ala Thr Ala Asp Val Ile Val Pro Pro Asp Gly Pro Gln Asp Ala Ala
          1205   1210   1215

Leu Leu Leu Ala Arg Gln Thr Pro Arg Pro Ala Ala Ala Ala Pro Ser
          1220   1225   1230

Val Gly Lys Arg Asp Val Gly Thr Trp Cys Tyr Ala Arg Gly Trp Arg
          1235   1240   1245

His Ala Ala Pro Ala Asp Pro Ala Pro Leu Thr Gly Gly Cys Leu Leu
          1250   1255   1260

Leu Gly Asp Gly Asp Thr Ala Lys Ala Val Ala Ser Arg Leu Glu Ala
1265   1270   1275   1280

Leu Gly Val Pro Val Thr Thr Val Gly Gly Gly Arg Pro Pro Gly Pro
          1285   1290   1295

Glu Arg Tyr Arg Glu Leu Val Gly Pro Ala Thr Arg Leu Ala Val Asp
          1300   1305   1310

Leu Trp Pro Leu Arg Asp Ala Ser His Arg Gly Arg Ala Ala Gly Ala
          1315   1320   1325

Ala Gly Val Arg Thr Ala Gln Asp Ala Ala Leu His Asn Leu Leu His
          1330   1335   1340

Leu Ala Arg Ala Phe Gly Ala Leu Glu Glu Arg His Pro Ala Arg Val
1345   1350   1355   1360

Val Thr Val Thr Thr Gly Ala His Asp Val Leu Gly Asp Asp Leu Ala
          1365   1370   1375

His Pro Glu His Ala Thr Val Pro Ala Ala Ala Lys Val Ile Pro Arg
          1380   1385   1390

Glu Tyr Pro Trp Ile Ala Cys Thr Ala Leu Asp Val Glu Pro Gly Leu
          1395   1400   1405

Asp Ala Glu Arg Leu Ala Asp Leu Ile Val Arg Glu Leu Gly Ala Ala
          1410   1415   1420

Arg Glu Thr Thr Val Thr Ala Cys Arg Gly Arg Arg Arg Phe Thr Pro
1425   1430   1435   1440

Cys Pro Val Arg Gln Pro Leu Pro Ala Ala Pro Glu Arg Pro Ala Val
          1445   1450   1455

Arg Pro Gly Gly Val Tyr Leu Val Cys Gly Gly Leu Gly Gly Ile Gly
          1460   1465   1470

Leu His Leu Ala Glu Tyr Leu Gly Arg Ala Arg Thr Thr Val Val Leu
          1475   1480   1485

Thr His Arg Arg Pro Phe Pro Ala Pro Gly Ala Trp Asp Gly Leu Pro
    1490   1495   1500

Ala Gly His Pro Glu Ala Ala Val Val Arg Arg Leu Arg Ser Leu Ala
1505   1510   1515   1520

Ala Thr Gly Ala Thr Val Val Val Arg Arg Ala Asp Leu Thr Asp His
            1525   1530   1535

Asp Ala Met Arg Ala Leu Ala Asp Glu Val Glu Gln Ala His Gly Pro
        1540   1545   1550

Val Arg Gly Val Val His Ala Ala Gly Val Pro Asp Thr Ala Gly Met
        1555   1560   1565

Ile Gln Arg Arg Asp Arg Ala Gly Thr Asp Ala Ala Leu Ala Ala Lys
    1570   1575   1580

Leu Thr Gly Thr Leu Val Leu Asp Glu Val Phe Ala His Arg Asp Leu
1585   1590   1595   1600

Asp Phe Leu Val Leu Cys Ser Ser Ile Gly Thr Val Leu His Lys Leu
            1605   1610   1615

Lys Phe Gly Glu Val Gly Tyr Val Ala Gly Asn Glu Phe Leu Asp Ala
        1620   1625   1630

Tyr Ala Ala His Arg Ala Ala Arg Arg Pro Gly Arg Thr Leu Ser Ile
        1635   1640   1645

Ala Trp Thr Asp Trp Arg Glu Ser Gly Met Trp Ala Ala Ala Gln Arg
    1650   1655   1660

Arg Leu Thr Glu Arg Tyr Gly Thr Gly Ala Asp Leu Pro Val Pro Pro
1665   1670   1675   1680

Gly Gly Asp Leu Leu Gly Ala Ile Ser Pro Glu Glu Gly Val Asp Val
            1685   1690   1695

Phe Ala Arg Leu Leu Ala Ala Asp Thr Gly Pro Asn Val Ile Val Ser
        1700   1705   1710

Ala Gln Asp Leu Asp Glu Leu Leu Ala Arg His Ala Ala Tyr Thr Thr
        1715   1720   1725

Asp Asp His Leu Ala Ala Leu Gly Asp Leu Arg Ile Ala Ala Ala Arg
    1730   1735   1740

Asp Arg Ser Ala Pro Ala Ala Pro Tyr Ala Ala Pro His Thr Pro Ala
1745   1750   1755   1760

Gln Arg Arg Ile Ala Gly Trp Tyr Arg Asp Leu Leu Gly Val Glu His
            1765   1770   1775

Val Gly Leu Asp Asp Asp Phe Phe Ala Leu Gly Gly Asp Ser Leu Leu
        1780   1785   1790

Ala Leu Arg Leu Leu Ser Gln Leu Arg Asp Ala Tyr Gly Val Glu Ile
         1795   1800   1805

Ser Val Ala Arg Met Phe Asp Glu Pro Thr Val Ala Ala Leu Ala Ala
    1810   1815   1820

Ala Thr Gly Pro Pro Pro Glu Glu Thr Pro Gly Gln Glu Glu Val Val
1825   1830   1835   1840

Leu

<210> 100
<211> 1218
<212> PRT
<213> Streptomyces verticillus

<220>
<223> ORF23

<400> 100
Met Thr Thr Pro Arg Ile Thr Asp Leu Leu Thr Glu Leu Arg Gly Arg
  1   5   10   15

Gln Val Thr Leu Thr Ala Asp Gly Asp Arg Leu His Cys Arg Ala Pro
             20   25   30

Arg Gly Ala Leu Thr Asp Glu Leu Leu Ala Thr Ile Arg Ala Arg Arg
          35   40   45

Asp Glu Leu Leu Ala His Leu Arg Ala Asp Arg Arg Ile Pro Arg His
    50   55   60

Asp Gly Pro Ala Pro Leu Ser Phe Ala Gln Glu Arg Leu Trp Leu Leu
  65   70   75   80

His Gln Phe His Pro His Asp Ser Ala Tyr Asn Ile Pro Leu His Ile
             85   90   95

Ala Leu Arg Gly Pro Leu Asn Pro Ala Ala Leu Arg Ala Ala Leu Ala
          100   105   110

Glu Val Val Arg Arg His Asp Val Leu Arg Thr Arg Tyr Ala Ile Ser
          115   120   125

Arg Gly Leu Pro Arg Pro Val Val Glu Pro Ala His Thr Pro Pro Leu
    130   135   140

Pro Leu Thr Asp Leu Thr Gly Leu Pro Ala His His Arg Asp Ala Glu
145   150   155   160

Leu Ala Arg Leu Ala Ala Gln Glu Ala Arg Arg Pro Phe Asp Leu Ala
             165   170   175

Gln Gly Pro Val Leu Arg Ala Arg Leu Leu Arg Thr Ala Pro Glu Glu
          180   185   190

His Arg Leu Leu Leu Thr Arg His His Ile Ala Ser Asp Gly Trp Ser
        195   200   205

Leu Asp Ile Leu Leu Arg Glu Leu Gly Thr Phe Tyr Arg Ala Gly Arg
        210   215   220

Asp Gly Thr Pro Ala Gly Leu Asp Ala Leu Pro Leu Arg Tyr Ala Asp
225   230   235   240

Phe Ala Ala Tyr Gln Arg Glu Gln Ala Glu Arg Pro Glu Thr Ala Glu
            245   250   255

Arg Ser Thr Arg Trp Ala Arg His Leu Arg Gly Ala Pro Ala Thr Leu
        260   265   270

Asp Val Leu Gly Pro Pro Pro Ala Glu Pro Ser His Ala Pro Ala Gly
        275   280   285

Thr Val Arg Thr Asp Leu Pro Ala Ala Leu Val Thr Gly Leu Arg Gln
    290   295   300

Leu Gly Gly Arg Ala Arg Thr Thr Leu Phe Pro Leu Leu Leu Ser Ala
305   310   315   320

Phe Gly Leu Ala Leu Ala Gly Pro Pro Gly Pro Tyr Asp Val Met Val
            325   330   335

Gly Ile Pro Val Ala Gly Arg Pro Arg Thr Glu Leu Glu Pro Leu Ile
            340   345   350

Gly Cys Phe Ala Thr Ile Ala Pro Met Arg Leu Thr Ser Asp Gly Thr
            355   360   365

Glu Pro Leu Thr Arg Leu Ala Ala Arg Ala Gln Gln His Val Gln Asp
    370   375   380

Ala Leu Asp Gly Pro Asp Val Pro Phe Glu Arg Leu Val His Ala Leu
385   390   395   400

Arg Pro Glu Arg Asp Leu Ala Glu Asn Pro Leu Phe Ser Ala Ser Phe
            405   410   415

Ala Phe Gln Asn Thr Pro Arg Thr Ala Val Arg Leu Pro Gly Leu Asp
            420   425   430

Ala Glu Val Leu Pro Ser Pro Pro Val Ala Pro Lys Phe Pro Leu Ala
            435   440   445

Leu Thr Ala Thr Ala Arg Ala Asp Gly Gly Met Gly Leu Glu Leu Glu
    450   455   460

Phe Asp Arg Asp Arg Ile Ala Glu Pro Val Ala Arg Gly Ile Leu Thr
465   470   475   480

Ser Phe His Ala Ala Leu Ala Arg Ala Val Ala Asp Pro Glu Ala Pro
            485   490   495

Ala Ala Pro Val Pro Ala Ala Ala Val Asp Arg Arg Pro Gly Arg Glu
            500   505   510

Gly His Glu Cys Leu His Glu Pro Val Ala Arg Ala Ala Ala Arg His
        515   520   525

Pro Asp Ala Val Ala Val Ser Cys Gly Gly Thr Gln Leu Ser Tyr Gly
        530   535   540

Ala Leu Asp Thr Arg Ala Glu Arg Leu Ala Ala Val Leu Arg Ala His
545   550   555   560

Gly Ala Gly Pro Glu Arg Leu Val Ala Leu Cys Leu Pro Thr Gly Pro
                565   570   575

Glu Trp Val Val Gly Ala Leu Ala Ile Leu Lys Ser Gly Ala Ala Tyr
            580   585   590

Leu Pro Leu Asp Pro Gly Asp Pro Ala Glu Arg Arg Ala Ser Val Ala
        595   600   605

Ala Asp Ala Gly Ala Thr Leu Ile Val Ser Asp Thr Ala Leu Pro Pro
        610   615   620

Leu His Arg Val Asp Val Thr Ala Thr Leu Pro Asp Gly Ala Pro Glu
625   630   635   640

Pro Thr Ala Arg Ala Val Leu Pro Gly Asn Leu Ala Tyr Ala Val Tyr
                645   650   655

Thr Ser Gly Ser Thr Gly Gly Pro Lys Gly Val Leu Val Thr His Ala
                660   665   670

Asn Val Thr Gly Leu Leu Ala Ala Cys Arg Glu Ala Leu Pro Ala Leu
        675   680   685

Asp Ala Pro Arg Thr Trp Ser Ala Thr His Ser Pro Ala Phe Asp Phe
        690   695   700

Ser Val Trp Glu Val Trp Gly Pro Leu Thr Ala Gly Gly Arg Leu Val
705   710   715   720

Leu Val Pro Pro Asp Val Ala Arg Ala Pro Asp Glu Leu Trp Asp Thr
                725   730   735

Leu Arg Asp Glu Gln Val Glu Val Leu Ser Gln Thr Pro Ser Ala Phe
                740   745   750

His His Leu Leu Pro Thr Ala Val Arg Arg Ala Ala Gln Ala Thr Ala
        755   760   765

Leu Glu Leu Val Val Leu Gly Gly Glu Ala Cys Glu Pro Ala Arg Leu
        770   775   780

Thr Pro Trp Trp Asp Ala Leu Gly Asp Arg Arg Pro Ala Val Val Asn
785   790   795   800

Met Tyr Gly Ile Thr Glu Asn Thr Ile His Val Thr Val Arg Arg Met
            805   810   815

Thr Ala Ala Asp Arg Ser Gly Ser Pro Val Gly Arg Pro Leu Pro Gly
            820   825   830

Gln Arg Ala Asp Leu Leu Asp Pro His Gly Arg Pro Val Ala Pro Gly
        835   840   845

Gly Arg Gly Glu Leu Phe Val Gly Gly Val Gly Leu Ala Arg Gly Tyr
    850   855   860

Leu Gly Arg Pro Gly Leu Thr Ala Arg Ser Phe Leu Pro Asp Asp Thr
865   870   875   880

Pro Gly Trp Pro Gly Ala Arg Arg Tyr Arg Ser Gly Asp Leu Ala Arg
            885   890   895

Leu Leu Pro Asp Gly Gly Leu Asp Tyr Ala Gly Arg Ser Asp Ala Gln
        900   905   910

Val Lys Val Arg Gly Tyr Arg Val Glu Pro Ala Glu Thr Glu Ala Ala
        915   920   925

Ala Leu Thr His Pro Ala Val Arg His Cys Val Val Val Pro Arg Gly
    930   935   940

Asp Gly Asp Arg Arg His Leu Ala Ala Tyr Val Val Ala Asp Thr Arg
945   950   955   960

Ala Cys Asp Gly Pro Gly Leu Arg Thr His Leu Ala Glu Arg Leu Pro
            965   970   975

Arg His Leu Val Pro Ala Ser Val Val Phe Leu Lys Arg Ile Pro Leu
            980   985   990

Thr Arg Asn Gly Lys Leu Asp Val Ala Ala Leu Pro Asp Pro Ala Ala
        995   1000   1005

His Arg Ala Pro Ala Arg Glu Arg Pro Arg Thr Ala Thr Glu Arg Thr
    1010   1015   1020

Leu Thr Arg Leu Leu Ala Ala Leu Leu Lys Ala Pro Pro Glu Thr Ile
1025   1030   1035   1040

Gly Thr His Asp Asn Leu Phe Asp Leu Gly Gly Asp Ser Leu Thr Val
            1045   1050   1055

Thr Gln Phe His Ser Arg Val Val Glu Glu Phe Ala Val Asp Leu Pro
        1060   1065   1070

Val Arg Arg Val Tyr Gln Ala Leu Asp Ile Ala Thr Leu Ala Val Thr
        1075   1080   1085

Val Asp Asp Phe Arg Arg Arg Ala Glu Arg Thr Ala Val Leu Arg Ala
    1090   1095   1100

Leu Ala Ala Ala Glu Ala Met Glu Pro Gly Gly Thr Ala Gly Glu Ser
1105   1110   1115   1120

Gly Gly Asn Pro Glu Glu Ser Ala Ala Thr Ala Arg Gly Pro Ala Val
                1125   1130   1135

Ala Ala Asn Glu Pro Gly Ala Ala Ala Arg Glu Ser Gly Ala Ala Pro
            1140   1145   1150

Val Glu Pro Ala Val Ala Val Gln Glu Ser Ala Ala Thr Lys Gly Glu
        1155   1160   1165

Pro Gly Thr Ala Ala Asn Glu Leu Gly Ala Glu Ala Arg Glu Pro Gly
        1170   1175   1180

Thr Ala Ala Gln Glu Pro Gly Thr Asp Pro Arg Pro Pro Ala Ala Thr
1185   1190   1195   1200

Pro Gln Asp Pro Arg Thr Thr Pro Gln Glu Gly Gln Pro Cys Pro Arg
                1205   1210   1215

Pro Glu

<210> 101
<211> 2675
<212> PRT
<213> Streptomyces verticillus

<220>
<223> ORF22

<400> 101
Met Ser Arg Pro Ala Gly Ile Val Asp Ile Ala Arg Arg His Ala Glu
  1   5   10   15

Arg Thr Pro Ala Arg Pro Ala Tyr Ala Phe Leu Pro Asp Gly Glu Thr
            20   25   30

Glu Ser Val Arg Phe Ser Phe Ala Asp Ile Asp Arg Arg Ala Arg Ala
        35   40   45

Val Ala Ala Val Leu Gln Asp Arg Gly Leu Ala Gly Glu Arg Val Leu
    50   55   60

Val Ala Tyr Pro Ser Gly Pro Glu Tyr Val Gln Ala Phe Leu Gly Cys
65   70   75   80

Leu Tyr Ala Gly Val Val Ala Val Pro Cys Asp Glu Pro Arg Ser Gly
            85   90   95

Pro Ser Ala Glu Arg Leu Ala Gly Ile Arg Ala Asp Ala Arg Pro Ala
            100   105   110

Leu Ala Leu Thr Ala Gly Ala Pro Glu Ala Gly Leu Ala Gly Leu Ala
        115   120   125

Thr Leu Asp Val Ala Gly Val Pro Asp Ser Ala Ala Gly Ala Trp Thr
    130   135   140

Asp Pro Val Ala Gly Pro Asp Ala Leu Ala Phe Leu Gln Tyr Thr Ser
145   150   155   160

Gly Ser Thr Arg Arg Pro Arg Gly Val Met Val Gly His Gly Asn Leu
          165   170   175

Leu Ala Asn Glu Arg Cys Ile Ala Ala Ala Cys Gly His Asp Arg Asp
          180   185   190

Ser Thr Phe Val Gly Trp Ala Pro Phe Phe His Asp Met Gly Leu Val
          195   200   205

Ala Asn Leu Leu Gln Pro Leu Tyr Leu Gly Ser Leu Ser Val Leu Met
    210   215   220

Pro Pro Met Ala Phe Leu Gln Arg Pro Ala Arg Trp Leu Arg Ala Val
225   230   235   240

Ser Arg Tyr Arg Ala His Thr Ser Gly Gly Pro Asn Phe Ala Tyr Asp
          245   250   255

Leu Cys Val Asp Arg Val Gly Glu Asp Glu Arg Ala Gly Leu Asp Leu
          260   265   270

Ser Gly Trp Lys Val Ala Tyr Asn Gly Ala Glu Pro Val Arg Ala Asp
          275   280   285

Thr Leu Arg Arg Phe Thr Asp Arg Phe Ala Pro His Gly Phe Thr Pro
    290   295   300

Gly Ala His Phe Pro Thr Tyr Gly Leu Ala Glu Ala Thr Leu Leu Val
305   310   315   320

Ala Thr Gly Pro Lys Gly Val Pro Pro Arg Thr Leu Thr Ala Asp Arg
          325   330   335

Ala Ala Leu Arg Ala Gly Arg Leu Arg Pro Ala Gly Pro Gly Glu Ala
          340   345   350

Gly Leu Glu Leu Val Gly Asn Gly Thr Ala Gly Leu Asp Thr Thr Leu
          355   360   365

Arg Ile Val Asp Pro Ala Thr Ala Arg Glu Cys Pro Pro Gly Glu Val
    370   375   380

Gly Glu Val Trp Val Arg Gly Pro Gly Val Ala Arg Gly Tyr Phe Gly
385   390   395   400

Arg Pro Arg Glu Ser Ala Pro Leu Leu Ala Ala Arg Leu Pro Gly Gly
          405   410   415

Glu Gly Pro Tyr Leu Arg Thr Gly Asp Leu Gly Ala Leu His Asp Gly
          420   425   430

Glu Leu Phe Leu Thr Gly Arg His Lys Asp Leu Ile Val Ile Arg Gly
     435   440   445

Gln Asn His His Pro His Asp Leu Glu Arg Thr Ala Glu Gln Ala His
     450   455   460

Pro Ala Leu Arg Pro Thr Cys Ala Ala Ala Phe Ala Val Pro Gly Asp
465   470   475   480

Gly Ala Glu Arg Leu Val Leu Val Cys Glu Leu Thr Ser Tyr Arg Ala
          485   490   495

Val Asp Pro Ala Ala Val Ala Glu Ala Val Arg Ala Ala Leu Ala Ala
          500   505   510

Arg His Gly Val Ala Pro His Thr Leu Val Val Leu Arg Arg Gly Gly
          515   520   525

Ile Pro Lys Thr Thr Ser Gly Lys Val Arg Arg Gly His Cys Arg Thr
     530   535   540

Ala Tyr Leu Asp Gly Thr Leu Pro Val His Thr Ala Val Arg Leu Pro
545   550   555   560

Ala Gly Glu Glu Gly Thr Glu Ala Leu Pro Leu Thr Thr Asp Pro Gly
          565   570   575

Arg Leu Ala Thr Ala Leu Arg Asp Leu Ala Ala Ala His Ala Gly Leu
          580   585   590

Ala Gly Pro Leu Pro Gly Thr Asp Glu Pro Val Ser Ala Leu Gly Leu
          595   600   605

Asp Ser Leu Ala Ser Leu Arg Leu His His His Val Gln Ser Ala Tyr
     610   615   620

Gly Val Thr Leu Pro Val Thr Ala Leu Leu Gly Asp Thr Thr Tyr Arg
625   630   635   640

Arg Leu Ala Glu Leu Thr Leu Ala Ala Pro Arg Pro Ala Arg Ala Pro
          645   650   655

Glu Gly Gln Val Thr Gly Val Trp Arg Pro Leu Thr His Gly Gln Arg
          660   665   670

Ala Leu Trp Tyr Glu Gln Ala Leu Ala Pro His Ala Ala Ala Tyr His
          675   680   685

Leu Val Arg Ala Leu Ala Leu Arg Gly Pro Val Asp Glu Glu Ala Leu
     690   695   700

Ala Glu Ala Val Arg Arg Val Val Arg Arg His Pro Ala Leu Arg Thr
705   710   715   720

Arg Phe Ala Leu Arg Asp Gly Glu Pro Ala Arg Arg Thr Glu Pro Tyr
          725   730   735

Gly Pro Glu Leu Asp Val Arg Asp Ala Thr Gly Leu Pro Ala Asp Arg
            740   745   750

Leu Arg Glu His Leu Ala Ala Ala Gly Asp Arg Pro Phe Asp Leu Ala
        755   760   765

Ala Gly Asp Arg Pro Val Arg Leu Thr Leu Tyr Arg Thr Asp Gly Gly
    770   775   780

His Ile Leu Leu Leu Val Ala His His Leu Val Ala Asp Phe Trp Ser
785   790   795   800

Leu Val Val Leu Leu Gly Asp Leu Ala Arg Ala His Ala Gly Glu Asp
            805   810   815

Leu Pro Pro Ala Pro Glu Gly Asp Pro Gly Asp Glu Ala Thr Asp Ala
            820   825   830

Asp Arg Thr Tyr Trp Arg His Arg Leu Ala Asp Ala Pro Pro Ala Leu
        835   840   845

Asp Leu Pro Thr Asp Leu Pro His Pro Ala Glu Arg Gly Phe Ala Gly
    850   855   860

Ala Thr His Ala Phe Arg Leu Pro Pro Asp Leu Thr Ala Arg Leu Thr
865   870   875   880

Ala Leu Ser Arg Glu Arg His Cys Thr Leu Phe Thr Thr Leu Leu Ala
            885   890   895

Ala His Gln Leu Leu Leu His Arg Leu Thr Gly Gln Asp Asp Leu Val
            900   905   910

Val Gly Thr Leu Leu Ala Arg Arg Asp Thr Ala Glu Ala Ala Gly Ala
        915   920   925

Val Gly Tyr Leu Val Asn Pro Leu Pro Leu Arg Ser Val Arg Glu Pro
    930   935   940

Gly Glu Thr Phe Thr Glu Leu Leu Arg Arg Thr Arg Arg Thr Val Leu
945   950   955   960

Asp Ala Val Ala His Gly Arg His Pro Phe Gly Pro Leu Val Ser Arg
            965   970   975

Leu Ala Pro Ala Arg Thr Pro Gly Arg Ala Pro Leu Leu Gln Ser Leu
        980   985   990

Phe Val Leu Gln Arg Glu Tyr Gly Asp Glu Ala Asp Gly Tyr Arg Ala
        995   1000   1005

Leu Ala Leu Gly Val Gly Gly Arg Leu Arg Val Gly Gly Leu Asp Leu
    1010   1015   1020

Glu Ala Leu Ala Leu Pro Arg Arg Trp Ser Gln Leu Asp Leu Ser Leu
1025   1030   1035   1040

Ser Met Ala Arg Leu Gly Asp Gly Leu Thr Gly Val Trp Glu Tyr Arg
                1045   1050   1055

Thr Asp Leu Phe Thr Glu Ala Thr Val Ala Glu Leu Ser Glu Ala Phe
            1060   1065   1070

Val His Leu Leu Arg Ala Ala Val Glu Asp Pro Gly Ala Pro Val Glu
        1075   1080   1085

Thr Leu Pro Leu Thr Gly Gly Arg Glu Thr Gly Pro Arg Arg Gly Pro
    1090   1095   1100

Ser Ala Ala Arg Pro Ala Leu Pro Leu His Arg Leu Val Ala Ala Ala
1105   1110   1115   1120

Ala Arg Arg Asp Pro Ala Arg Thr Ala Val Val Ala Leu Ala Pro Asp
            1125   1130   1135

Gly Thr Ala His His Ile Ser His Gly Ala Leu His Arg Ala Ala Thr
        1140   1145   1150

Thr Leu Ala Ala Arg Leu Arg Arg Glu Gly Ala Gly Pro Glu Arg Pro
        1155   1160   1165

Val Ala Val Leu Val Glu Arg Gly Pro Trp Leu Pro Val Ala Tyr Leu
    1170   1175   1180

Gly Ile Leu His Ala Gly Ala Thr Val Leu Pro Leu Asp Pro Glu Asp
1185   1190   1195   1200

Pro Pro His Arg Leu Ala Arg Thr Ile Ala Asn Ser Gly Ala Arg Leu
            1205   1210   1215

Leu Leu Thr Glu Thr Gly Thr Ala Ser Arg Ala Ala Glu Ala Ala Gly
        1220   1225   1230

Pro Gly Val Arg Ala Leu Thr Val Arg Glu Gly Ala Thr Gly Gly Glu
        1235   1240   1245

Arg Phe Ser Ala Asp Val His Pro Glu Gln Ser Ala Tyr Leu Leu Tyr
    1250   1255   1260

Thr Ser Gly Ser Thr Gly Asp Pro Lys Gly Val Leu Val Pro His Arg
1265   1270   1275   1280

Ala Ile Val Asn Arg Leu Leu Trp Met Gln Glu Thr Tyr Arg Leu Arg
            1285   1290   1295

Pro Gly Glu Arg Val Leu His Lys Thr Pro Val Thr Phe Asp Val Ser
        1300   1305   1310

Met Trp Glu Leu Leu Trp Pro Leu Thr Ala Gly Ala Thr Val Val Met
        1315   1320   1325

Ala Arg Pro Gly Thr His Arg Asp Pro Ala Arg Leu Val Arg Arg Ile
    1330   1335   1340

Ala Arg Glu Ala Val Thr Thr Val His Phe Val Pro Ser Met Leu Thr
1345   1350   1355   1360

Pro Phe Leu Thr Glu Leu Ala Arg Gly Thr Thr Arg Leu Pro Ala Leu
        1365   1370   1375

Arg Arg Val Val Cys Ser Gly Glu Glu Leu Pro Ala Ala Ala Val Asn
        1380   1385   1390

Arg Ala Ala Gly Leu Leu Asp Ala Arg Leu Tyr Asn Leu Tyr Gly Pro
    1395   1400   1405

Thr Glu Ala Ala Val Asp Val Thr Ala Trp Pro Cys Arg Pro Pro Glu
    1410   1415   1420

Pro Gly Pro Val Pro Ile Gly Leu Pro Ile Ala Asn Thr Thr Thr Glu
1425   1430   1435   1440

Val Leu Asp Gly Arg Leu Arg Pro Leu Pro Arg Pro Val Pro Gly Glu
        1445   1450   1455

Leu Tyr Leu Gly Gly Ala Cys Leu Ala His Gly Tyr His His Asp Pro
        1460   1465   1470

Ala Leu Thr Ala Ala Arg Phe Leu Pro Ala Pro Gly Gly Gly Arg Arg
    1475   1480   1485

Tyr Arg Thr Gly Asp Leu Val Arg Gln Arg Ala Asp Gly Ala Leu Val
    1490   1495   1500

Phe Arg Gly Arg Thr Asp Asp Gln Val Lys Ile Gly Gly Ile Arg Val
1505   1510   1515   1520

Glu Pro Gly Glu Val Ala Glu Ala Leu Arg Ala Leu Pro Gly Val Ala
        1525   1530   1535

Asp Ala Ala Val Val Pro His Asp Gly Arg Leu Ala Ala Tyr Ala Val
        1540   1545   1550

Ala Asp Pro Val Gly Pro Ala Pro Ala Ala Asp Ala Leu Arg Asp Ala
        1555   1560   1565

Leu Arg Arg Arg Leu Pro Gly His Leu Val Pro Ala Ala Leu Thr Leu
    1570   1575   1580

Leu Asp Arg Leu Pro Leu Thr Pro Ala Gly Lys Leu Asp Arg Arg Ala
1585   1590   1595   1600

Leu Pro His Pro Ser Ala Pro Pro Pro Asp Gly Gly Arg Pro Pro Thr
        1605   1610   1615

Thr Gly Thr Glu Arg Leu Val Ala Arg Val Trp Ala Glu Arg Leu Gly
        1620   1625   1630

Arg Glu Val Val Gly Val Asp Arg Asp Phe Phe Ser Leu Gly Gly Asp
    1635   1640   1645

Ser Val Arg Ala Leu Gly Val Thr Ala Ala Leu Arg Ala Ala Gly Leu
    1650   1655   1660

Pro Val Thr Val Thr Asp Leu Leu Arg Leu Pro Thr Val Ala Ala Leu
1665   1670   1675   1680

Ala Arg His Ala Asp Glu Arg Ala Asp Arg Arg Pro Ala Arg Gln Glu
                1685   1690   1695

Thr Pro Pro Gly Pro Phe Ala Leu Cys Pro Glu Ala Ala Gly Val Pro
            1700   1705   1710

Gly Leu Glu Asp Ala Tyr Pro Met Ser Met Ala Gln Arg Ala Val Leu
            1715   1720   1725

Phe His Arg Asp His Asn Pro Gly Tyr Glu Val Tyr Val Thr Ser Val
    1730   1735   1740

Ala Val Ser Thr Pro Leu Asp Arg Thr Arg Leu Ala Ala Ala Val Asp
1745   1750   1755   1760

Arg Leu Leu Asp Arg His Ala Tyr Leu Arg Ser Ser Phe Asp Leu Val
            1765   1770   1775

Ser His Pro Glu Pro Thr Gln Leu Val Trp Thr His Leu Pro Thr Pro
            1780   1785   1790

Leu Glu Val Val Glu Ser Ser Asp Pro Ala Gly Phe Asp Ala Trp Leu
            1795   1800   1805

His Ala Glu Arg Lys Arg Pro Leu Asp Val Gly Thr Gly Pro Leu Ala
    1810   1815   1820

Arg Phe Thr Ala His Asp Ala Gly Ala Ala Gly Phe Arg Leu Thr Val
1825   1830   1835   1840

Ser Ser Phe Ala Leu Asp Gly Trp Cys Val Ala Thr Val Leu Thr Glu
            1845   1850   1855

Leu Leu Arg Asp Tyr Trp Ser Ala Leu Arg Gly Ala Pro Leu Ser Leu
            1860   1865   1870

Pro Ala Pro Ala Ala Ser Tyr Arg Glu Phe Val Ala Leu Glu Arg Ala
        1875   1880   1885

Ala Gln His Asp Pro Ala His Arg Glu Phe Trp Arg Thr Glu Leu Ala
    1890   1895   1900

Gly Ala Arg Pro His Pro Leu Pro Arg Arg Pro Val Pro Pro Pro Gly
1905   1910   1915   1920

Pro Asp Gly Ile Arg Gln His Arg His Val Val Pro Val Glu Asp Thr
            1925   1930   1935

Val Ala Lys Gly Leu Ser Ala Leu Ala Gly Glu Leu Gly Val Gly Leu
        1940   1945   1950

Lys His Val Leu Leu Gly Val His Leu Arg Val Val Arg Ala Leu Ser
    1955   1960   1965

Gly Asp Pro Asp Val Ile Thr Ala Val Glu Thr His Gly Arg Leu Glu
    1970   1975   1980

Arg His Asp Gly Asp Arg Val Leu Gly Val Phe Asn Asn Ile Leu Pro
1985   1990   1995   2000

Leu Arg Gln Arg Val Asp Gly Gly Ser Trp Ala Asp Leu Ala Arg Ala
            2005   2010   2015

Ala His Ala Ala Glu Ala Arg Thr Gly Glu Tyr Arg Arg Tyr Pro Leu
            2020   2025   2030

Ala Gln Ala Gln Arg Asp His Gly Ala Ala Gly Leu Phe Asp Thr Leu
            2035   2040   2045

Phe Val Phe Thr His Phe His Leu Tyr Arg Ala Leu Ala Asp Leu Asp
    2050   2055   2060

Gly Met Ala Val Ser Asp Leu Arg Ala Pro Asp Gln Thr Tyr Val Pro
2065   2070   2075   2080

Leu Thr Ala His Phe Asn Val Asp Ala Thr Asp Gly Gly Gly Leu Arg
            2085   2090   2095

Leu Leu Leu Glu Ser Asp Pro Arg Glu Phe Pro Asp Glu Gln Val Ala
            2100   2105   2110

Glu Phe Ala Ala Tyr Tyr Arg Arg Ala Leu Arg Ala Ala Ala Asp Ala
            2115   2120   2125

Pro His Arg Pro Tyr Arg Asp Thr Pro Leu Thr Asp Arg Pro Ala Gly
    2130   2135   2140

Pro Ala Pro His Arg Ala Glu Arg Ser Val His Ala Leu Phe Ala Ala
2145   2150   2155   2160

Pro Ala Arg Asn His Pro Asp Arg Ile Ala Leu Asp Gly Glu Asp Gly
            2165   2170   2175

Pro Val Ser His Gly Ala Leu Ala Arg Arg Ala Ala Arg Leu Ala Gly
            2180   2185   2190

Thr Leu Arg Ala Ala Gly Ala Gly Pro Asp Thr Val Val Gly Ile Trp
            2195   2200   2205

Ala Pro Arg Arg Ala Asp Ala Val Val Ala Leu Leu Ala Ala Leu His
    2210   2215   2220

Ala Gly Ala Ala Tyr Leu Pro Leu Asp Pro Val His Pro Pro Arg Arg
2225   2230   2235   2240

Gln Arg Gln Val Leu Thr Glu Ala Gly Ala Arg Leu Leu Val Leu Pro
            2245   2250   2255

Ala Gly Leu Asp Thr Pro Leu Arg Ala Cys Gly Leu Pro Val Val Ala
         2260   2265   2270

Pro Asp Asp Leu Gly Ala Pro Ile Ala Pro Val Ser Val His Pro Glu
         2275   2280   2285

Gln Leu Ala Ala Val Met Ala Thr Ser Gly Ser Thr Gly Thr Pro Lys
         2290   2295   2300

Thr Ile Gly Val Pro Gln Arg Ala Leu Ala Gly Tyr Leu Arg Trp Ala
2305   2310   2315   2320

Ile Gly His Tyr Arg Leu Asp Glu Glu Thr Val Ser Pro Val His Ser
              2325   2330   2335

Ser Leu Gly Phe Asp Leu Thr Val Thr Ala Leu Leu Ala Pro Leu Ala
         2340   2345   2350

Ala Gly Gly Gln Ala Arg Leu Thr Asp Ser Gly Asp Pro Gly Ala Leu
         2355   2360   2365

Gly Ala Ala Leu Ala Ala Gly His His Thr Leu Leu Lys Ile Thr Pro
    2370   2375   2380

Ala His Leu Ala Ala Leu Ala His Gln Leu Gly Ala Pro Thr Ala Leu
2385   2390   2395   2400

Arg Thr Val Val Ala Gly Gly Glu Pro Leu His Ala Gly His Val Arg
              2405   2410   2415

Ala Leu Arg Ala Phe Ala Pro Gly Ala Arg Leu Val Asn Glu Tyr Gly
         2420   2425   2430

Pro Thr Glu Thr Thr Val Gly Cys Cys Ala His Asp Val Ala Pro Asp
         2435   2440   2445

Pro Gly Glu Ala Pro Ile Pro Val Gly Thr Pro Ile Ala Gly Leu Ser
    2450   2455   2460

Ala Cys Val Val Asp Asp Ala Leu Pro Ala Pro Pro Gly Val Arg Gly
2465   2470   2475   2480

Glu Leu Tyr Ile Gly Gly Thr Gly Val Thr Arg Gly Tyr Leu Gly Arg
              2485   2490   2495

Pro Ala Ala Thr Ala Ala Ala Tyr Val Pro Asp Pro Ala Ala Pro Gly
         2500   2505   2510

Ala Arg Arg Tyr Arg Thr Gly Asp Leu Ala Arg Arg Leu Pro Asp Gly
         2515   2520   2525

Thr Leu Leu Leu Ala Gly Arg Ala Asp Arg Gln Val Lys Ile Arg Gly
    2530   2535   2540

His Arg Val Glu Pro Gly Glu Val Glu Gln Val Leu Gly Gly His Pro
2545   2550   2555   2560

```
Gly Val Arg Glu Ala Ala Val Val Ala His Pro Ala Pro Gly Gly Gly
            2565                2570            2575

Arg Arg Leu Val Ala Tyr Trp Val Pro Ala Glu Pro Ala Arg Pro Pro
            2580                2585            2590

Ser Ala Asp Ala Leu Thr Ala Leu Leu Ala Asp Arg Leu Pro Pro Tyr
        2595                2600            2605

Ala Val Pro Ala Glu Leu Val Arg Leu Pro Ala Leu Pro Thr Thr Pro
    2610                2615                2620

Asn Gly Lys Val Asp His Thr Arg Leu Pro Ala Ala Gly Arg Asp Arg
2625                2630                2635                2640

Arg Leu Ala Glu Leu Leu Asp Arg Ile Glu Ala Leu Ser Asp Ala Glu
            2645                2650                2655

Ala Ala Ser Ala Leu Arg Asp Ser Arg Pro Ala Pro Gly Ser Gly Asp
            2660                2665                2670

Asp Arg Ala
        2675


<210> 102
<211> 645
<212> PRT
<213> Streptomyces verticillus

<220>
<223> ORF21

<400> 102
Met Arg Gly His Asp Asp Arg Val Gly Arg Leu Ser Ala Asp Trp Ser
  1               5               10                  15

Val Pro Pro Thr Arg Leu Pro Ala Gly Asp Pro Ala Gly Ser Val Gly
            20              25                  30

Pro Gly Gly Gly Pro Pro Val Pro His Glu Glu Val Thr Met Ser Glu
            35              40                  45

Tyr Asp Asp Arg Leu Ala Arg Leu Ser Asp Asn Gln Arg Ala Leu Leu
    50              55                  60

Asp Arg Trp Leu Ala Glu Asp Pro Ala Gly Gly Ala Gly Pro Leu Arg
65              70              75                      80

Pro Asp Gly Arg Pro Pro Arg Thr Glu Ala Glu Arg Ile Leu Ala Gly
                85              90                  95

Val Trp Glu Glu Val Leu Glu Thr Gly Gly Ile Gly Ala Asp Asp Asp
            100             105             110

Tyr Phe Ala Leu Gly Gly Asp Ser Val His Ala Ile Val Ile Val Ala
        115             120             125
```

Lys Ala Arg Gln Ala Gly Leu Ala Leu Thr Ala His Asp Leu Phe Glu
  130   135   140

Ala Arg Thr Leu Ala Ala Val Ala Arg Arg Ala Ala Pro Ala Gly Pro
145   150   155   160

Ala Glu Pro Val Pro Asp Ala Gly Gly Gly Ala Val Arg Tyr Pro Leu
           165   170   175

Thr Pro Met Gln Gln Gly Met Leu Tyr His Ser Ala Gly Gly Ser Thr
        180   185   190

Pro Gly Ala Tyr Val Val Gln Val Cys Cys Arg Leu Thr Gly Asp Leu
      195   200   205

Asp Val Ala Ala Phe Arg Thr Ala Trp Gln Ala Val Leu Ser Ala Asn
  210   215   220

Pro Ala Leu Ala Val Ser Phe His Trp Ser Asp Gly Ser Pro Pro Glu
225   230   235   240

Gln Val Val Asp Pro Asp Ala Arg Val Thr Val Asp Thr Ala Asp Trp
        245   250   255

Arg Asp Arg Thr Pro Ala Glu Arg Asp Asp Ala Phe Ala Arg Phe Leu
        260   265   270

Asp Thr Asp Arg Ala Ala Gly Phe Asp Leu Ala Arg Ala Pro Leu Met
      275   280   285

Arg Leu Thr Leu Phe Arg Glu Gly Glu His Ala Tyr Arg Cys Val Trp
  290   295   300

Thr His His His Leu Val Leu Asp Gly Trp Ser Gln Gln Leu Val Leu
305   310   315   320

Arg Asp Val Leu Asp Cys Tyr Met Arg Leu Arg Ala Gly Arg Gly Ala
        325   330   335

Glu Pro Pro Ala Arg Pro Ser Phe Thr Gly His Leu Arg Arg Leu Glu
        340   345   350

Arg Gln Asp Gly Ile Asp Glu Glu Phe Trp Arg Asp His Leu Gly Gly
        355   360   365

Leu Pro Ala Pro Ser Arg Val Ala Gly Pro Gly Cys Arg Asp Gly Arg
  370   375   380

Val Val Ala Val Arg Arg Ala Glu His Arg His Arg Val Ser Ala Ala
385   390   395   400

Thr Gly Arg Glu Leu Thr Gly Phe Cys Arg Arg His Gly Leu Thr Pro
        405   410   415

Ala Ala Val Leu His Gly Gly Trp Ala Val Leu Leu Ser Leu His Cys
      420   425   430

```
Gly Gln Asp Asp Val Val Phe Gly Thr Thr Leu Ser Gly Arg Pro Glu
        435             440             445

Asp Leu Pro Gly Val Thr Glu Cys Val Gly Leu Phe Ile Asn Thr Leu
        450             455             460

Pro Leu Arg Val Arg Cys Gly Glu Asp Thr Asp Val Val Asp Trp Leu
465             470             475             480

His Gly Val Gln Ser Asp Leu Ala Ala Leu Trp Asp His Ala His Val
            485             490             495

Pro Leu Ser Arg Val Glu Arg Gly Leu Gly Leu Gly Arg Gly Gly Gly
        500             505             510

Leu Phe Asp Ser Ile Met Val Val Glu Asn Phe Pro Ala Ala Val Ala
        515             520             525

Asp Gly His Glu Ala Gly Gly Leu Arg Val Thr Glu Pro Arg Ala Leu
    530             535             540

Val Asp Glu Gly Tyr Pro Leu Val Leu Glu Ala Thr Thr Gly Asp Arg
545             550             555             560

Pro Val Leu His Ala Arg Tyr Asp Pro His Arg Leu Ala Gly Gly Arg
            565             570             575

Val Gln Ala Leu Leu Ala Ala Phe Asp Asp Tyr Leu Arg Ala Val Thr
        580             585             590

Ala Asp Pro Ala Arg Pro Leu Pro Asp Leu Arg Ala Val Leu Ala Arg
        595             600             605

Asp His Ala Arg Arg Asp Gly Ala Ala Arg Gly Arg Arg Arg Ala Ala
    610             615             620

Asp Arg Thr Arg Leu Thr Leu Ala Arg Arg Arg Pro Ala Thr Thr Thr
625             630             635             640

Glu Gly Glu Thr Pro
            645
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<210> 103
<211> 325
<212> PRT
<213> Streptomyces verticillus

<220>
<223> ORF20

<400> 103
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Met Thr Trp Thr Val Val Thr Gly Ala Gly Gly Phe Ile Gly Ser His
 1           5               10              15

Leu Val Arg Arg Leu Val Arg Asp Gly His Arg Val Arg Gly Val Asp
        20              25              30
```

Leu Val Pro Pro Arg Tyr Gly Pro Gly Glu Ala Gln Glu Phe Val Ile
        35   40   45

Ala Asp Leu Arg Asp Ala Ala Gln Ala Ala Arg Ala Val Ala Gly Ala
        50   55   60

Asp Ser Val Phe Ala Leu Ala Ala Asn Met Gly Gly Ile Gly Trp Thr
65   70   75   80

His Thr Ala Pro Ala Glu Ile Leu His Asp Asn Leu Leu Ile Ser Thr
            85   90   95

His Thr Ile Glu Ala Cys Arg Ala Ala Gly Val Arg Thr Thr Val Tyr
        100   105   110

Thr Ser Ser Ala Cys Val Tyr Pro Ala Ser Leu Gln Arg Glu Pro Asp
        115   120   125

Ala Ala Pro Leu Ala Glu Asp Pro Val Phe Pro Ala Glu Pro Asp Met
    130   135   140

Glu Tyr Gly Trp Glu Lys Leu Thr Thr Glu Ile Leu Cys Gly Ala Tyr
145   150   155   160

Arg Arg Ser His Gly Met Asp Ile Lys Thr Ala Arg Leu His Ala Ile
            165   170   175

Tyr Gly Pro Leu Gly Thr Tyr Thr Gly Pro Arg Ala Lys Ser Leu Ser
        180   185   190

Met Leu Cys Asp Lys Val Ala Arg Ile Pro Gly Asp Glu Gly Glu Ile
        195   200   205

Glu Val Trp Gly Asp Gly Thr Gln Thr Arg Ser Tyr Cys Tyr Val Asp
    210   215   220

Asp Cys Val Glu Gly Leu Ile Arg Leu Ala Arg Ser Asp Val Ala Glu
225   230   235   240

Pro Val Asn Ile Gly Ser Glu Glu Arg Val Asp Ile Ala Ser Leu Val
            245   250   255

Glu Arg Ile Ala Gly Val Ala Gly Lys Lys Val Arg Cys Ala Phe Ala
        260   265   270

Pro Asp Arg Pro Val Gly Pro Arg Gly Arg Val Ser Asp Asn Thr Arg
        275   280   285

Cys Arg Glu Leu Leu Gly Trp Ala Pro Glu Thr Ser Leu Ala Ala Gly
    290   295   300

Leu Glu Arg Thr Tyr Pro Trp Ile Glu Arg Gln Val Leu Ala Glu Ala
305   310   315   320

Gly Arg Ala Asp Ala
            325

<210> 104
<211> 494
<212> PRT
<213> Streptomyces verticillus

<220>
<223> ORF19

<400> 104
Met Lys Asp Leu Gly Arg Leu Leu Leu Gly His Ala Ala Arg Phe Arg
 1   5   10   15

Gly Arg Glu Leu Gln Asp Val Ala Thr Arg Ala Leu Arg Ala Ser Gly
            20   25   30

Gly Glu Asn Ala Trp Val Val Ser Val Val Asn Thr Ser Leu Arg Ala
        35   40   45

Arg Gln Ala Val Asp His Ala Leu Arg Leu Ala Pro Arg Arg Gly Leu
    50   55   60

Ser Arg Leu Arg Tyr Pro Phe Ser Ala Ala His His Thr Ala Thr Pro
65   70   75   80

Pro Arg Thr Leu Ser Leu Leu Cys Pro Thr Arg Glu Arg Val Gly Asn
            85   90   95

Val Glu Arg Phe Leu Asp Ser Val Ala Arg Thr Ala Ala Ala Pro Gly
            100   105   110

Arg Ile Glu Ala Leu Phe Tyr Val Asp Asp Asp Pro Gln Leu Pro
        115   120   125

Ala Tyr His Glu Leu Phe Glu His Ala Arg Trp Arg Tyr Gly Arg Ile
    130   135   140

Gly Arg Cys Ala Leu His Val Gly Ala Pro Val Gly Val Pro His Ala
145   150   155   160

Trp Asn His Leu Ala Arg Asn Ala Ala Gly Asp Val Leu Met Met Ala
            165   170   175

Asn Asp Asp Gln Leu Tyr Ile Asp Tyr Gly Trp Asp Thr Ala Leu Asp
            180   185   190

Ala Arg Val Thr Glu Leu Ser Ala Leu His Pro Asp Gly Val Leu Cys
        195   200   205

Leu Tyr Phe Asp Asp Gly Gln Tyr Pro Glu Gly Gly Cys Asp Phe Pro
    210   215   220

Met Val Thr Arg Pro Trp Tyr Gly Thr Leu Gly Tyr Phe Thr Pro Thr
225   230   235   240

Ile Phe Gln Gln Trp Glu Val Glu Lys Trp Val Phe Asp Ile Ala Asp
            245   250   255

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Arg Leu His Arg Leu Tyr Pro Val Pro Gly Val Leu Val Glu His Arg
            260             265             270

His Tyr Gln Asp Tyr Lys Ala Pro Phe Asp Ala Thr Tyr Gln Arg His
            275             280             285

Arg Met Thr Arg Glu Lys Ser Phe Ala Asp His Ala Leu Phe Leu Arg
    290             295             300

Thr Glu Pro Asp Arg Glu Ala Glu Thr Asp Arg Leu Arg Ala Val Ile
305             310             315             320

Ala Arg Ala Gly Asn Thr Pro Asp Ala Asp His Ala Asp His Ala Val
            325             330             335

His Asp Ala Glu Thr Phe Trp Phe Thr Gly Leu Leu Arg Glu Ser His
            340             345             350

Ala Lys Leu Leu Ala Glu Leu Asp Asp Ala Pro Gly Pro Ala Ala Gly
            355             360             365

Ala Val Leu Phe Ala Asp Gly Ser Trp Thr Gly Val Ala Tyr Arg Thr
    370             375             380

His Pro Leu Ala Thr Ala Leu Leu Ala Ser Ile Pro Glu Ala Thr Leu
385             390             395             400

Asp Ser Gly Arg Ala Asp Leu Leu Val Val Pro Pro Gly Ala Ser His
            405             410             415

His His Pro Asp Gly Thr Val Asp Ser Ala Phe Gly Ser Asp Ala Gly
            420             425             430

Leu Arg Val Leu Phe Gly Leu Arg Val Pro Asp Ala Ala Gln Leu Arg
            435             440             445

Val Gly Asp Gly Pro Val Pro Trp Gly Asn Gly Gln Cys Leu Ile His
    450             455             460

Asp Thr Ala Ala Pro Ser Thr Leu Arg Asn Asp Gly Thr Glu Ser Leu
465             470             475             480

Ala Ala Leu Thr Phe Val Val Pro Arg Pro Ala Pro Gly Glu
            485             490
```

<210> 105
<211> 638
<212> PRT
<213> Streptomyces verticillus

<220>
<223> ORF18

<400> 105
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Met Arg Pro Val Cys Gly Ile Val Ala Ile Arg Ser Ala Asp Gly Gly
  1               5              10              15
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Leu Asp Gly Gly Glu Leu Thr Ala Pro Met Ala Asp Leu Arg Pro Arg
        20   25   30

Gly Pro Asp Gly Glu Gly Thr Trp Val Ser Pro Thr Gly Arg Ala Ala
        35   40   45

Leu Gly His Thr Arg Leu Ala Val Ile Ala Pro Asp Ala Gly Arg Gln
    50   55   60

Pro Val Ala Gly Pro Asp Gly Thr Val Arg Leu Val Val Asn Gly Glu
65   70   75   80

Phe Tyr Gly Tyr Arg Glu Ile Arg Ala Glu Leu Arg Ala Ala Gly Cys
                85   90   95

Arg Phe Arg Thr Gly Ser Asp Ser Glu Ile Ala Leu His Leu Tyr Leu
            100   105   110

Arg Asp Gly Arg Arg Ala Leu Glu Arg Leu Arg Gly Glu Phe Ala Phe
        115   120   125

Val Leu Trp Asp Glu Arg Arg Ala Thr Leu Phe Ala Ala Arg Asp Arg
    130   135   140

Phe Gly Val Lys Pro Leu Tyr Tyr Thr Glu Arg Asp Gly Arg Leu Tyr
145   150   155   160

Val Ala Ser Thr Val Arg Ala Leu Leu Ser Cys Gly Ala Pro Ala Arg
            165   170   175

Trp Asp Thr Ala Ala Phe Ala Ala His Leu Gln Leu Gly Leu Pro Pro
        180   185   190

Asp Arg Thr Leu Phe Ala Gly Ile Arg Gln Leu Pro Pro Gly Cys His
        195   200   205

Leu Ile Ala Asp Ala His Gly Thr Arg Val Thr Pro Tyr Trp Asp Leu
    210   215   220

Asp Tyr Pro Pro Ala Gly Glu Leu Ala Ala Arg Gly Ser Leu Asp Asp
225   230   235   240

His Leu Asp Ala Val Arg Glu Arg Thr Asp Glu Ala Val Arg Leu Arg
            245   250   255

Thr Val Ala Asp Val Pro Leu Ala Cys His Leu Ser Gly Gly Leu Asp
            260   265   270

Ser Ser Ala Val Ala Ala Ser Ala Ala Arg His Thr Arg Leu Thr Ala
    275   280   285

Phe Thr Val Arg Phe Asp Asp Pro Ala Phe Asp Glu Ser Ala Val Ala
    290   295   300

Arg Arg Thr Ala Ala His Leu Ala Ile Asp His Arg Glu Val Ala Ser
305   310   315   320

Glu Arg Ala His Phe Ala Asp His Leu Arg Asp Val Val Arg Ala Gly
                325   330   335

Glu Met Val Gln Glu Asn Ser His Gly Ile Ala Arg Tyr Leu His Ser
            340   345   350

Ala His Ile Lys Lys Ala Gly Phe Thr Ala Val Leu Ala Gly Glu Gly
        355   360   365

Gly Asp Glu Leu Phe Leu Gly Tyr Pro Gln Phe Arg Lys Asp Leu Thr
    370   375   380

Leu Ser Leu Ser Ala Asp Ala Arg Asp Lys Ala Asp Arg Gly Tyr Ala
385   390   395   400

Arg Leu Val Ala Ala Gly Leu Leu Pro Pro Tyr Leu Arg Thr Leu Leu
            405   410   415

Gly Thr Leu Gly Phe Leu Pro Ser Trp Ile Val Asp Arg His Leu Ala
            420   425   430

Val Thr Gln Pro Val Ala Ala Leu Leu Arg Pro Asp Phe Ala Ala Glu
        435   440   445

Leu Ala Arg Ala Asp Ala Ala Ala Pro Leu Leu Ala Ala Gly Ala Gly
    450   455   460

Leu Leu Ala Gly Arg Ala Pro Ala His Gln Ala Thr Tyr Leu Phe Ala
465   470   475   480

Lys Thr Trp Leu Pro Gly Tyr Leu Leu Ala Ala Glu Arg Leu Asp Ala
            485   490   495

Ala Gln Ala Val Glu Val Arg Leu Pro Leu Phe Asp His His Leu Phe
        500   505   510

Asp Leu Val Arg His Thr Pro Pro Ala Trp Tyr Asp Lys Asp Gly Thr
        515   520   525

Gly Lys Tyr Pro Leu Arg Ala Ala Met Arg His Arg Leu Pro Arg Glu
    530   535   540

Val Thr Glu Gly Arg Lys Gln Gly Phe Leu Ala Pro Pro Met Ala Asp
545   550   555   560

Asp Asp Thr Leu Leu Asp Ala Leu Arg Glu Arg Leu Ala Gly Pro Gly
            565   570   575

Ala Gly Asp Asp Pro Phe Phe Asp Pro His Ala Val Arg Ala Leu Leu
            580   585   590

Asp Arg Leu Ala Ala Ala Pro Pro Gly Gln Arg Ser Gly Gly Glu Lys
        595   600   605

Leu Leu Gln Leu Val Ala Ser Thr Ala Glu Leu Ala Asp Glu Phe Gly
    610   615   620

Leu Thr Thr Ala Pro Ser Gly Gln Lys Gly Gly Asn Gly Gly
625   630   635

<210> 106
<211> 2626
<212> PRT
<213> Streptomyces verticillus

<220>
<223> ORF17

<400> 106
Met Leu His Gly Ala Ala His Pro Arg Pro Gly Ile Pro Arg Arg Gly
  1   5   10   15

Ala Thr Ala Ala Pro Ala Ser Tyr Gly Gln Glu Arg Leu Trp Leu Leu
            20   25   30

Thr Gly Leu Leu Pro Thr Ala Tyr Asn Tyr Ala Thr Ala Leu Arg Leu
        35   40   45

Arg Gly Asp Leu Ser Val Pro Ala Leu Arg Gly Ala Leu Arg Gly Ile
    50   55   60

Val Arg Arg His Glu Val Leu Arg Thr Thr Phe Arg Leu Asp Gly Asp
 65   70   75   80

Asp Leu Ile Gln Val Val His Pro Thr Ala Asp Val Pro Val Arg Leu
            85   90   95

Ala Asp Leu Thr Gly Arg Ser Ala Asp Thr Gly Arg Leu Met Arg Glu
        100   105   110

Glu Ala Arg Arg Pro Phe Asp Leu Glu His Gly Pro Leu Leu Arg Leu
        115   120   125

Thr Leu Phe Arg Leu Gly Pro Arg Asp His Leu Ala Leu Leu Ala Val
        130   135   140

His His Ala Val Thr Asp Gly Trp Ser Asn Gly Val Leu Val Thr Glu
145   150   155   160

Leu Ala Thr Gly Tyr Arg Glu Leu Arg Ala Gly Arg Pro Asp Arg Arg
            165   170   175

Pro Ala Pro Pro Val Gln Tyr Gly Asp Tyr Ala His Trp Gln Arg Glu
            180   185   190

Arg Leu Thr Gly Pro Glu Leu Arg Ala Leu Glu Asp Tyr Trp Arg Thr
        195   200   205

Ala Val Arg Asp Leu Pro Arg Thr Asp Leu Pro Thr Asp Arg Pro Arg
    210   215   220

Pro Ala Ala Arg Arg Gly Glu Gly Ala Asn His Ala Leu Leu Leu Ser
225   230   235   240

Pro Glu Leu Thr Gly Arg Leu Ala Asp Leu Arg Arg Arg Glu Gly Gly
                    245   250   255

Ser Leu Phe Met Leu Val Leu Ser Ala Leu Leu Val Val Leu Arg Gly
            260   265   270

Thr Gly Gly Arg Asp Arg Leu Ala Val Gly Thr Leu Val Ala Gly Arg
        275   280   285

Thr Arg Pro Glu Leu Glu Pro Leu Ile Gly Tyr Phe Val Asn Val Leu
    290   295   300

Leu Leu Pro Phe Glu Thr Gly Gly Arg Thr Ser Phe Ala Glu Leu Trp
305   310   315   320

Arg Arg Val Arg Gly Arg Leu Val Glu Ala Tyr Ala His Gln Glu Leu
            325   330   335

Pro Leu Glu Lys Ala Leu Glu Leu Leu Arg Ala Asp Gly Thr Ala Pro
            340   345   350

Ala Asp Pro Pro Val Gly Val Val Cys Val Ala Gln Gln Pro Ala Pro
        355   360   365

Ala Ile Thr Leu Pro Gly Leu Asp Ala Ser Val Glu Asp Val Asp Leu
    370   375   380

Gly Thr Ala Gln Phe Asp Leu Val Val Glu Val Arg Glu Arg Pro Glu
385   390   395   400

Gly Val Gln Ile Ala Phe Gln Tyr Asp Arg Asp Leu Phe Asp Ala Ala
            405   410   415

Thr Val Arg Leu Leu Ala Asp His Val His Ala Val Leu Asp Gln Ala
        420   425   430

Ala Ala Asp Pro Thr Leu Pro Cys Ala Glu Leu Pro Ala Pro Pro Ala
        435   440   445

Pro Ala Ala Pro Ala Arg Thr Ala Gly Ala Thr Thr Leu His Ala Leu
    450   455   460

Phe Glu Ser Arg Ala Ala Lys Ser Pro Asp Ala Val Ala Leu Val Asp
465   470   475   480

Gly Gly His Arg Val Thr Tyr Arg Thr Leu Asn Thr Arg Ala Asn Arg
            485   490   495

Leu Ala Arg His Leu Arg Ala Val Gly Val Arg Thr Glu Asp Arg Val
            500   505   510

Ala Leu Arg Leu Pro Arg Gly Thr Asp Ala Val Thr Ala Thr Leu Ala
        515   520   525

Ala Leu Lys Ala Gly Ala Ala Tyr Val Pro Leu Asp Pro Ala Leu Pro
    530   535   540

Glu Glu Arg Leu Thr Arg Val Leu Ala Asp Ala Arg Pro Ala Val Val
545   550   555   560

Leu Thr Pro Ala Tyr Leu His Asp Arg Ser Ala Glu Ile Thr Ala His
                565   570   575

Ala Gly His Asp Leu Asn Leu Pro Val His Pro Asp Asn Leu Ala Tyr
            580   585   590

Leu Leu His Thr Ser Gly Ser Thr Gly Thr Pro Lys Gly Val Leu Gly
        595   600   605

Thr His Arg Gly Ala Val Asn Arg Val Asp Trp Met Ser Thr Ala Tyr
    610   615   620

Pro Phe Arg Thr Gly Asp Val Ala Val Ala Arg Thr Ala Pro Gly Phe
625   630   635   640

Val Asp Ala Val Trp Glu Leu Phe Gly Pro Leu Ala Ala Gly Val Pro
            645   650   655

Leu Val Leu Leu Pro Thr Asp Glu Ala Arg Asp Pro Ala Leu Leu Thr
        660   665   670

Ala Ala Leu Glu Arg His Arg Val Ser Arg Met Val Thr Val Pro Ser
        675   680   685

Leu Leu Thr Met Leu Leu Asp Glu Ser Ala Arg Ala Thr Asp Leu Gly
        690   695   700

Thr Arg Leu Ala Cys Leu Arg Thr Trp Ile Thr Ser Gly Glu Pro Leu
705   710   715   720

Pro Pro Ala Leu Ala Arg Arg Phe His Asp Arg Leu Pro Gly Arg Thr
            725   730   735

Leu Leu Asn Leu Tyr Gly Ser Ser Glu Thr Ala Ala Asp Ala Thr Ala
            740   745   750

Ala Arg Ile Asp Pro Ala Pro Gly Thr Ala Leu Pro Glu Arg Ser Pro
        755   760   765

Ile Gly Thr Pro Ile Thr Gly Val Ser Ala Leu Val Arg Gly Pro Asp
    770   775   780

Leu Arg Pro Leu Pro Ala Leu Met Pro Gly Glu Leu Tyr Ala Gly Gly
785   790   795   800

Ala Cys Val Ala Arg Gly Tyr His Ala Arg Pro Ala Glu Thr Ala Ala
            805   810   815

Ala Phe Pro Pro Asp Pro Asp Gly Gly Pro Gly Ala Arg Met Phe Arg
            820   825   830

Thr Gly Asp Arg Ala Arg Leu Arg Ala Asp Gly Arg Leu Glu Leu Leu
        835   840   845

```
Gly Arg Val Asp Arg Gln Val Gln Ile Arg Gly Gln Arg Ala Glu Pro
    850             855         860

Gly Glu Val Glu His Ala Leu Leu Ala His Pro Ala Val Arg Ala Ala
865             870         875             880

Ala Val Thr Ala Asn Pro Asp Ala Thr Gly Leu Trp Ala Tyr Val Arg
            885         890             895

Leu Ala Pro Gly Pro Phe Ala Ala Gly Ser Pro Gln Thr Glu Leu Thr
        900         905             910

Ala Phe Leu Arg Arg Thr Leu Pro Ala His Leu Val Pro Thr Ala Val
    915         920             925

Thr Val Leu Asp Glu Leu Pro Val Thr Ala His Gly Lys Thr Asp His
    930         935             940

Ala Arg Leu Pro Ala Pro Asp Pro Arg Ala Gly Arg Pro Ala Pro Thr
945         950             955             960

Ala Pro Arg Thr Pro Thr Glu Arg Thr Val Ala Asp Val Phe Ala Gly
        965         970             975

Val Leu Gly Leu Glu Gly Pro Val Gly Ala His Asp Asp Phe Phe Leu
        980         985             990

Leu Gly Gly His Ser Leu Leu Ala Ala Arg Ser Arg Gly Gly Thr Pro
    995         1000            1005

Arg Pro Pro Arg Arg Pro Asp Arg Ala Glu Arg Arg·Leu Arg Gly Pro
    1010            1015            1020

His Arg Arg Arg Ser Val Ala Ala Arg Thr Asp Ala Ala Arg Pro Gly
1025            1030            1035            1040

Thr Gly Pro Glu His Thr Pro Phe Val Thr Asp Pro Gly Ala Arg His
        1045            1050            1055

Glu Pro Phe Pro Leu Thr Asp Val Gln Arg Ala Tyr Tyr Val Gly Arg
        1060            1065            1070

Glu Gly Gly Phe Ala Leu Gly Gly Val Ser Thr His Ala Tyr Leu Glu
        1075            1080            1085

Ile Glu Ala Pro Arg Ile Asp Val Ala Arg Phe Thr Gly Ala Leu Arg
    1090            1095            1100

Gly Val Ile Ala Arg His Pro Met Leu Arg Ala Val Ile Arg Pro Asp
1105            1110            1115            1120

Gly Leu Gln Gln Val Leu Thr Asp Val Pro Pro Tyr Asp Val Ala Val
            1125            1130            1135

His Asp Leu Arg Asp Leu Asp Glu Pro Ala Arg Gln Arg Arg Arg Ala
        1140            1145            1150
```

Ala Leu Arg Glu Glu Met Ser His Gln Val Val Pro Ala Asp Leu Trp
    1155   1160   1165

Pro Leu Phe Asp Val Arg Val Ser Leu Gly Pro Thr Asp Ala Leu Val
    1170   1175   1180

His Val Gly Val Asp Ala Leu Ile Cys Asp Ala His Ser Phe Gly Leu
1185   1190   1195   1200

Val Leu Ala Glu Leu Ala Ala Arg Tyr Ala Asp Pro Ala Arg Arg Phe
    1205   1210   1215

Pro Pro Leu Thr Ala Asp Phe Arg Asp His Val Leu His Gln Glu Ala
    1220   1225   1230

Leu Arg Gly Thr Ala Glu Tyr Ala Ala Ala Glu Arg Tyr Trp Arg Glu
    1235   1240   1245

Arg Leu Pro Glu Leu Pro Pro Gly Pro Glu Leu Pro Leu Ala Val Ala
    1250   1255   1260

Pro Glu Thr Leu Gly Thr Pro Arg Phe Thr Arg Arg Ser Gly Arg Leu
1265   1270   1275   1280

Asp Ala Ala Ser Trp Thr Ala Val Lys Asp Arg Ala Arg Arg Ala Gly
    1285   1290   1295

Leu Ser Pro Ser Gly Val Leu Leu Ala Ala Phe Ala Glu Val Ile Thr
    1300   1305   1310

Ala Trp Ser Gly Arg Pro Arg Tyr Ser Leu Met Leu Thr Val Phe Asp
    1315   1320   1325

Arg Pro Pro Leu His Pro Asp Leu Gly Arg Ile Val Gly Asp Phe Thr
    1330   1335   1340

Ser Leu Ser Leu Leu Glu Val Asp His Ser Arg Pro Gly Asp Phe Thr
1345   1350   1355   1360

Asp Arg Ala Arg Ala Leu Gln Arg Arg Leu Trp Gln Asp Leu Asp His
    1365   1370   1375

Leu Ala Val Gly Gly Val Thr Val Thr Arg Glu Arg Ala Leu Arg His
    1380   1385   1390

Asp Ala Arg Pro Gly Leu Leu Thr Pro Val Val Phe Thr Ser Asp Leu
    1395   1400   1405

Pro Val Gly Glu Thr Ala Ala Glu Asp Ala Asp Gly Gly Glu Gly Trp
    1410   1415   1420

Ala Leu Gly Glu Pro Val Tyr Gly Val Ser Gln Thr Pro Gln Val His
1425   1430   1435   1440

Leu Asp His Gln Val Ala Glu Asp Arg Gly Glu Leu Val Phe Asn Trp
    1445   1450   1455

Asp Ala Val Glu Asp Leu Phe Ala Pro Gly Ala Leu Asp Ala Met Phe
        1460   1465   1470

Ala Ala Tyr Thr Ala Ser Leu Thr Arg Leu Ala Arg Ser Pro Glu Ala
        1475   1480   1485

Trp Arg Arg Pro Gly Thr Pro Pro Leu Pro Thr Ala Gln Ala Ala Val
    1490   1495   1500

Arg Arg Arg Thr Ala Ala Thr Glu Ala Pro Leu Pro Ala Arg Leu Leu
1505   1510   1515   1520

His Glu Ala Val Gly Asp Ala Ala Arg Arg His Ala Asp Leu Thr Ala
            1525   1530   1535

Leu Val Asp Gly Asp Thr Arg Met Thr Tyr Arg Arg Leu Thr Glu His
        1540   1545   1550

Ala Arg Arg Val Gly Arg Thr Leu Arg Arg Leu Gly Ala Arg Pro Gly
        1555   1560   1565

Arg Leu Val Pro Val Val Ala Arg Lys Gly Trp Arg Gln Ala Val Ala
    1570   1575   1580

Ala Leu Gly Val Leu Glu Ser Gly Ala Ala Tyr Leu Pro Leu Asp Pro
1585   1590   1595   1600

Glu Leu Pro Ala Glu Arg Leu Val His Leu Val Arg Arg Ala Glu Ala
            1605   1610   1615

Ala Leu Leu Leu Thr Glu Arg Ala Leu Leu Asp Thr Leu Ala Val Pro
        1620   1625   1630

Val Gly Val Thr Val Leu Ala Val Asp Asp Asp Ala Ala Leu Asp Ala
        1635   1640   1645

Asp Gly Gly Pro Leu Gln Ser Val Gln Asn Leu Thr Asp Leu Ala Tyr
    1650   1655   1660

Thr Ile Phe Thr Ser Gly Ser Thr Gly Glu Pro Lys Gly Val Met Ile
1665   1670   1675   1680

Asp His Leu Gly Ala Ala Asn Thr Leu Glu Cys Val Asn Arg Arg Phe
            1685   1690   1695

Gly Thr Gly Pro Gly Asp Ala Val Leu Ala Val Ser Ser Pro Ser Phe
        1700   1705   1710

Asp Leu Ala Val Tyr Asp Leu Phe Gly Val Leu Ala Ala Gly Gly Thr
        1715   1720   1725

Val Val Val Pro Ala His Asp Arg Arg Arg Asp Pro Gly His Trp Ala
    1730   1735   1740

Glu Leu Ile Arg Arg Glu Arg Val Thr Leu Trp Asn Ser Val Pro Ala
1745   1750   1755   1760

Leu Gly Thr Leu Leu Thr Glu Tyr Ala Glu Ala Leu Ala Pro Asp Ala
            1765   1770   1775

Leu Arg Thr Leu Arg Ala Val Leu Leu Ser Gly Asp Trp Ile Pro Leu
        1780   1785   1790

Gly Leu Pro Asp Arg Ile Arg Ala Leu Ser Ala Pro Gly Ala Thr Val
        1795   1800   1805

Met Ser Leu Gly Gly Ala Thr Glu Ala Ser Ile Trp Ser Val Trp Tyr
    1810   1815   1820

Glu Ile Gly Lys Val His Glu Ala Trp Ser Ser Ile Pro Tyr Gly Thr
1825   1830   1835   1840

Pro Met Ala Asn Gln Arg Leu Glu Val Leu Asp Glu Gln Leu Arg Pro
            1845   1850   1855

Arg Pro Asp Trp Val Pro Gly Glu Leu Tyr Ile Gly Gly Thr Gly Val
        1860   1865   1870

Ala Lys Gly Tyr Trp Arg Asp Pro Glu Gln Thr Ser Leu Arg Phe Pro
        1875   1880   1885

Val His Pro Gly Ser Gly Gln Arg Leu Tyr Arg Thr Gly Asp Phe Ala
    1890   1895   1900

Arg His Leu Pro Asp Gly Thr Leu Glu Phe Leu Gly Arg Gln Asp Asp
1905   1910   1915   1920

Gln Val Lys Ile Gly Gly Phe Arg Val Glu Leu Gly Glu Val Glu Ala
            1925   1930   1935

Ala Leu Gly Arg Leu Pro Asp Val Ala Ala Gly Ala Val Ile Ala Thr
        1940   1945   1950

Gly Asp Pro Arg Gly Asp Arg Arg Leu Val Gly Phe Ala Val Pro Ala
        1955   1960   1965

Arg Glu Gly Gly Phe Asp Ala Ala Gly Leu Arg Arg Gln Leu Ala Arg
    1970   1975   1980

Arg Leu Pro Ala Tyr Met Val Pro Thr Thr Leu Leu Pro Leu Asp Arg
1985   1990   1995   2000

Leu Pro Leu Thr Ala Asn Gly Lys Val Asp Arg Ala Ala Leu Gln Arg
            2005   2010   2015

Leu Val Pro Gly Arg Ala Pro Ala Pro Ala Glu Pro Ala Thr Ala Pro
        2020   2025   2030

Pro Ala Arg Ser Arg Ala Val Pro Val Pro Gly Trp Leu Ala Asp Leu
        2035   2040   2045

Trp Cys Glu Leu Leu Asp Val Pro Glu Ala Asp Pro Asp Ala Asn Phe
    2050   2055   2060

Phe Ala Leu Gly Gly Thr Ser Arg Val Ala Ile Thr Leu Val Thr Arg
2065   2070   2075   2080

Ile Glu Ala Arg Leu Ala Val Arg Val Pro Leu Ala Arg Leu Phe Asp
                2085   2090   2095

Ala Arg Thr Leu Gly Gly Leu Ala Glu Thr Ile Ala Glu Leu Ser Ala
          2100   2105   2110

Ala Ala Glu Glu Glu Pro Ala Pro Ala Glu Pro Val Tyr Ala Pro Asp
          2115   2120   2125

Pro Ala Thr Arg His Glu Pro Phe Pro Leu Thr Asp Ile Gln Arg Ala
     2130   2135   2140

Tyr Trp Leu Gly Arg His Arg Ser Leu Ser Leu Gly Gly Val Ala Thr
2145   2150   2155   2160

His Thr Tyr Leu Glu Leu Asp Val Glu Asp Leu Asp Pro Gly Arg Leu
          2165   2170   2175

Gln Thr Ala Leu Arg Arg Leu Ile Asp Arg His Asp Ala Leu Arg Leu
          2180   2185   2190

Val Val Leu Pro Asp Gly Arg Gln Gln Ile Leu Gly Asp Val Pro Pro
          2195   2200   2205

Tyr Leu Leu Ala His Thr Asp Leu Arg Gly Arg Ala Asp Ala Glu Ala
     2210   2215   2220

Glu Leu Ala Arg Val Arg Glu His Met Ser His Glu Val Arg Asp Ala
2225   2230   2235   2240

Ser Arg Trp Pro Leu Phe Asp Val Arg Thr His Arg Leu Asp Asp Val
          2245   2250   2255

Arg Thr Arg Leu His Leu Ser Leu Asp Leu Leu Ile Ala Asp Ala His
          2260   2265   2270

Ser Val His Val Leu Thr Gly Asp Leu Leu Thr Phe Tyr Ala Asp Pro
     2275   2280   2285

Asp Ala Ala Leu Pro Pro Leu Gly Cys Ser Phe Arg Asp Tyr Val Leu
     2290   2295   2300

Ala Val Arg Ala His Ala Glu Gly Glu Pro Arg Arg Arg Ala Leu Asp
2305   2310   2315   2320

His Trp Arg Ala Arg Leu Ala Asp Leu Pro Gly Pro Pro Gly Leu Pro
          2325   2330   2335

Leu Arg Cys Arg Pro Glu Glu Leu Thr Ala Pro Arg Phe Ala Arg Leu
          2340   2345   2350

Thr Thr Gly Leu Gly Pro Asp Ala Trp Ala Arg Leu Arg Arg Ala Ala
  . 2355   2360   2365

Ala Ala Ala Glu Leu Thr Pro Ala Ala Leu Ile Cys Ala Ala Phe Cys
  2370   2375   2380

Asp Val Leu Ala Gln Trp Ser Asp Thr Pro Arg Phe Thr Leu Asn Leu
2385   2390   2395   2400

Thr Thr Phe His Arg Pro Ala Leu Leu Pro Gly Val Asp Asp Leu Val
          2405   2410   2415

Gly Asp Phe Thr Thr Thr Thr Leu Leu Gly Val Asp Gly Glu Gly Asp
          2420   2425   2430

Thr Phe Arg Asp Arg Ala Arg Arg Leu Gln Asp Arg Ile Trp Glu Asp
          2435   2440   2445

Leu Glu His Arg Val Val Ser Gly Val Glu Val Leu Arg Met Leu Arg
  2450   2455   2460

Arg Glu Arg Gly Thr His Asp Ala Val Arg Met Pro Val Val Phe Thr
2465   2470   2475   2480

Ser Thr Leu Arg Ala Ala Gly Pro Ala Pro Arg Thr Ala Pro Pro Ala
          2485   2490   2495

Trp Arg Val Arg Pro Gly Tyr Ala Ile Ser Gln Thr Pro Gln Val Leu
          2500   2505   2510

Leu Asp His Gln Val Ser Glu Ser Asp Gly Arg Leu Val Cys Thr Trp
          2515   2520   2525

Asp Tyr Val Ala Asp Ala Tyr Pro Pro Gly Leu Ile Glu Ala Met Phe
  2530   2535   2540

Gly Ala Phe Glu Ala Leu Leu Ala Ser Leu Ala Gly His Asp Asp Asp
2545   2550   2555   2560

Ala Gly His Asp Asp Asp Ala Gly His Asp Asp Gly Pro Gly His Asp
          2565   2570   2575

Asp Gly Pro Gly His Asp Asp Gly Pro Gly His Asp Asp Gly Pro Gly
          2580   2585   2590

His Asp Asp Gly Pro Gly Arg Asp Asp Ser Ala Asp His Gly His Ser
          2595   2600   2605

Ala Thr His Asp Asp Ser Ala Ala Arg Asn Asp Arg Glu Gly Gly Gly
  2610   2615   2620

Pro Glu
2625

<210> 107
<211> 935
<212> PRT
<213> Streptomyces verticillus

```
<220>
<223> ORF16

<400> 107
Met Thr Ser Ala Arg Pro Thr Pro Thr Leu Leu Pro Ala Asp Gln Arg
  1               5                  10                  15

Glu Leu Leu Arg Met Met Asn Asp Arg Thr Ala Pro Val Pro Ala His
             20                  25                  30

Thr Leu Thr Ala Gln Leu Ala Asp Ala Ala Arg Thr His Asp Arg Ala
             35                  40                  45

Leu Ala Leu Val Ala Pro Gly Leu Thr Leu Ser His Ala Glu Leu Asp
     50                  55                  60

Ala Arg Ala Ala Ala Val Ala Ala Arg Leu Thr Ala Ala Gly Val Ile
 65                  70                  75                      80

Pro Gly Asp Arg Val Ala Leu Ala Val Glu Tyr Gly Trp Glu Gln Val
             85                  90                  95

Val Gly Ala Leu Ala Ala Leu Arg Ala Gly Ala Val Cys Leu Pro Val
             100                 105                 110

Ala Pro Gly Leu Pro Arg Pro Ala Arg Trp Gln His Ala Thr Arg Ala
             115                 120                 125

Gly Ala Thr Ala Val Leu Thr Gln Ser Trp Leu Thr Gln Arg Ile Asp
     130                 135                 140

Trp Pro Gln Glu Leu Pro Val Leu Ser Val Asp Glu Pro Gly Pro Pro
145                 150                 155                 160

Val Pro Pro Thr Thr Ala Pro Ala Asp Gly Arg Ser Ala Thr Asp Ala
             165                 170                 175

Ala Tyr Arg Leu Asp Ala Pro Val Ser His Arg Ala Ile Thr Thr Ala
             180                 185                 190

Ala Leu Glu Ile Asp Arg Ala Phe Arg Val Gly Pro Gly Asp Arg Leu
             195                 200                 205

Leu Ala Leu Ala Pro Ala Asp Ser Pro Leu Ala Leu Tyr Glu Leu Phe
     210                 215                 220

Gly Pro Leu Leu Ala Gly Ala Ala Leu Val Leu Thr Arg Asp Ile Asp
225                 230                 235                 240

Leu Arg Asp Pro Gly Ala Leu His Glu Ala Leu Arg Thr His Gly Val
             245                 250                 255

Thr Leu Trp His Ser Pro Pro Ala Leu Leu Gly Leu Leu Leu Asp His
             260                 265                 270

Leu Ala Asp Arg Gly Gly Lys Leu Pro Glu Ser Leu Arg Leu Val Leu
             275                 280                 285
```

```
Leu Gly Gly Glu Arg Leu Asp Pro Ala Leu Val Arg Arg Val Arg Glu
    290                 295             300
```

```
Ser Ala Pro His Gln Pro Ala Val Ala His Leu Ser Ser Ala Thr Pro
305             310             315                 320
```

```
Ser Gly Pro Trp Thr Thr Cys Leu Glu Thr Gly Asp Leu Ala Pro Glu
            325             330             335
```

```
Trp Arg Ser Val Pro Val Gly Ala Pro Leu Pro Asn Gln Arg Ala His
            340             345             350
```

```
Ile Leu Ser Glu Thr Leu Arg Pro Cys Pro Val Trp Val Thr Gly Arg
        355             360             365
```

```
Leu His Tyr Gly Gly Val Ala Ala Glu Pro Pro Thr Gly Glu Glu His
    370             375             380
```

```
Ala Pro Ala Thr Val Pro His Pro Glu Thr Gly Glu Pro Leu Leu Arg
385             390             395                 400
```

```
Thr Gly Leu Phe Ala Arg Leu Leu Pro Glu Gly Leu Ile Asp Val Val
            405             410             415
```

```
Gly Asp Glu Thr Ala Arg Ile Ser Val Arg Asp Arg Pro Leu Asn Leu
        420             425             430
```

```
Gln Asp Thr Glu Thr Ala Leu Ala Ala His Glu Asp Val His Ser Ala
        435             440             445
```

```
Val Val Val Pro Val Gly Arg Gly Asp Glu Ser Leu Ala Arg Val Arg
    450             455             460
```

```
Leu His Pro Gly Ala Thr Ala Gly Pro Asp Glu Leu Leu Ala His Leu
465             470             475                 480
```

```
Arg Arg Lys Val Ser Pro Tyr Leu Leu Pro Gly His Ile Glu Val Gly
            485             490             495
```

```
Gly Pro Leu Pro Leu Thr Arg Asp Gly Arg Val Asp Arg Ala Arg Val
            500             505             510
```

```
Thr Ala Glu Ala Pro Ala Pro Ala Ala Val Pro Ala Ala Ala Pro Ala
        515             520             525
```

```
Ala Ser Ala Pro Ala Arg Asp Glu Ala Glu Leu Leu Ala Gln Val Ala
        530             535             540
```

```
Arg Val Thr Cys Arg Val Leu Gly Ile Gly Ala Val Glu Pro Asp Met
545             550             555                 560
```

```
Asn Leu Leu Asp Ala Gly Ala Thr Ser Val Glu Leu Val Arg Leu Ala
            565             570             575
```

```
Thr Ala Leu Glu Glu Glu Leu Gly Leu Asp Thr Asp Ile Glu Glu Leu
            580             585             590
```

```
Leu Ala Phe Pro Ser Val Ala Val Ile Val Gly Arg His Leu Gly Arg
        595             600             605

Arg Thr Ala Pro Pro Ala Arg Asp Pro Leu Pro Pro Ala Ser Val Ala
        610             615             620

Phe Ala Pro Gly Ser Val Leu Pro Ala Pro Pro Ala Pro Gly Pro Val
625             630             635             640

Pro Pro Ala Ser Val Pro Pro Ala Pro Ala Ser Val Pro Pro Ala Ser
            645             650             655

Glu Ser Ser Pro Leu Ala Pro Pro Ala Pro Gly Pro Val Pro Pro Thr
        660             665             670

Pro Val Pro Pro Ala Ser Val Pro Pro Ala Ser Gly Ala Ala Pro His
    675             680             685

Val Pro Pro Ala Pro Pro Ala Pro Ile Pro Ala Pro Ser Val Pro Pro
    690             695             700

Ala Pro Arg Pro Gln Pro Pro Leu Leu Thr Gly Ile Gly Ala Arg Gln
705             710             715             720

Ala Phe Lys Asp Ala His His Gly Ile Arg His Glu Phe Asp Ala Thr
            725             730             735

Asp Gly Val Ala Leu Ser Gly Pro Asp Asp His His Leu Thr Ala Arg
            740             745             750

Arg Ser His His Arg Phe Asp Pro Gly Pro Val Thr Leu Pro Asp Leu
        755             760             765

Ala Ala Leu Leu Gly Ala Leu Arg Arg Val Arg Gly Pro Gly Gly Glu
    770             775             780

Pro Lys Tyr Ala Tyr Pro Ser Ala Gly Ser Ser Tyr Pro Val Gln Thr
785             790             795             800

Tyr Leu Leu Val His Pro Gly Lys Val Thr Gly Leu Pro Gly Gly Ser
            805             810             815

His Tyr Val His Pro Ala Arg Asn Arg Leu Val Ser Ile Asp Pro Thr
            820             825             830

Ala Thr Leu Pro Ala Asp Ala His Ala Glu Ile Asn Arg Ala Ala Tyr
        835             840             845

Gly Glu Ala Ala Phe Ser Leu Tyr Leu Ile Ala Ala Ile Asp Ala Ile
    850             855             860

Thr Pro Leu Tyr Gly Asp Leu Ser Trp Asp Phe Thr Val Phe Glu Ala
865             870             875             880

Gly Ala Met Thr Gln Leu Leu Met Arg Thr Ala Val Gly Thr Gly Ile
            885             890             895
```

Gly Leu Cys Pro Val Gly Thr Met Asp Pro Ala Pro Leu Arg Arg Ala
            900   905   910

Phe Ala Leu Thr Asp Arg His Arg Phe Val His Ala Leu Leu Gly Gly
        915   920   925

Arg Pro Arg Thr Glu Ala Pro
    930   935

<210> 108
<211> 339
<212> PRT
<213> Streptomyces verticillus

<220>
<223> ORF15

<400> 108
Met Asn Arg His Gly Pro Leu Ala Gly Arg Arg Gln Ser Val Asp Thr
 1   5   10   15

Arg Ser Ala Ala Trp Val Ala Pro Thr Gly Thr Pro Gly Leu Pro Leu
            20   25   30

Glu Val Ala Ala Thr Arg Asp Gly Val Asp Pro Ala Glu Trp Ala Arg
        35   40   45

Thr His Leu Asp Thr Val Thr Gly Trp Leu His Arg His Gly Ala Val
    50   55   60

Leu Phe Arg Gly Phe Gly Val Gly Leu Asp Gly Phe Gly Asp Val Val
 65   70   75   80

His Ala Leu Ala Gly Ser Pro Glu Ala Tyr Val Glu Arg Ser Ser Pro
                85   90   95

Arg Thr Ala Leu Gly His His Leu Tyr Thr Ala Thr Asp His Pro Ala
            100   105   110

Asp Gln Pro Ile Pro Pro His Asn Glu Asn Ser Tyr Gln Leu Arg Phe
        115   120   125

Pro Gly Arg Leu Val Phe Gly Cys Leu Thr Pro Ala Arg Thr Gly Gly
    130   135   140

Ala Thr Pro Leu Ala Asp Thr Arg Arg Val Leu Gly Arg Leu Asp Pro
145   150   155   160

Ala Leu Val Ala Ala Phe Ala Arg Arg Gly Val Leu Tyr Gln Arg Asn
                165   170   175

Tyr Gly Asp Gly Ile Gly Met Ser Trp Gln Asp Ala Phe Gln Thr Arg
            180   185   190

Asp Lys Ala Ala Val Thr Ala Tyr Cys Ala Ala Arg Arg Val Asp Val
        195   200   205

```
Glu Trp Lys Pro Asp Gly Gly Leu Arg Thr Thr Gln Val Arg Pro Ala
    210             215             220
```

```
Leu Ala Val His Pro Ala Thr Gly Glu Arg Val Trp Phe Asn His Ala
225             230             235             240
```

```
Ala Phe Phe His Val Ser Ala Arg Pro Pro Ala Leu Arg Asp Ala Leu
            245             250             255
```

```
Leu Ala Gln Phe Asp Glu Arg Asp Leu Pro Ser His Ser Cys Tyr Gly
            260             265             270
```

```
Asp Gly Arg Pro Ile Glu Pro Ala Val Met Glu Glu Leu His His Ala
        275             280             285
```

```
Tyr Ala Ala Glu Leu Val Ala Pro Ala Trp Arg Ala Gly Asp Val Leu
    290             295             300
```

```
Leu Val Asp Asn Leu Leu Thr Ala His Gly Arg Glu Pro Phe Thr Gly
305             310             315             320
```

```
Glu Arg Arg Val Val Val Gly Met Ala Gln Pro Leu Asp Trp Asp Glu
            325             330             335
```

```
Val Ser Ala
```


```
<210> 109
<211> 462
<212> PRT
<213> Streptomyces verticillus
```

```
<220>
<223> ORF14
```

```
<400> 109
Met Thr Ala Pro Gly Thr Pro Leu Pro Ala Thr Phe Val Gln Arg Gly
  1             5             10              15
```

```
Leu Trp Pro Ser Thr Arg His Ala Arg Pro Ala Glu Val Thr His Val
            20              25              30
```

```
Arg Ala Leu Arg Leu Thr Gly Asp Thr Asp Thr Ala Arg Leu Thr Glu
            35              40              45
```

```
Ala Val Arg Arg Val Thr Ala Ala Leu Pro Ala Leu Thr Ala Glu Leu
    50              55              60
```

```
Ser Gly Asp Glu Glu Pro Arg Leu Thr Leu Arg Pro Asp Ala Pro Glu
65              70              75              80
```

```
Val Thr Pro Val Asp Leu Arg Gly Ala Pro Ser Ala Gly Arg Asp Ala
            85              90              95
```

```
Val Cys Val Ala Leu Leu Arg Ala Asp Arg Asp His Pro Arg Ala Gly
            100             105             110
```

```
Arg His Arg Ala Arg Phe His Leu Val Arg Leu His Asp Asp Glu Thr
        115             120             125

Val Leu Ala Leu Thr Ala His Thr Leu Leu Leu Asp Thr Pro Ser Leu
    130             135             140

Tyr Ala Val Leu Gly Ala Val Cys Gln Ala Tyr Ala Gly Arg Phe Arg
145             150             155             160

Pro Glu His Tyr Arg Asp Ala Thr Thr Leu Pro Asp Ala Pro His Ala
            165             170             175

Pro Leu Ser Gly Arg Ala Arg Ala Ser Arg Arg Arg Trp Trp His Arg
            180             185             190

Arg Leu Ala Ala Leu Pro Gly Pro Ala Pro Ala Pro Ala Gly Pro Pro
        195             200             205

Arg Asp Arg Val Thr Glu Thr His Arg Leu Arg Ile Pro Ala Ala Arg
        210             215             220

Trp Lys Ala Leu Thr Ala Leu Thr Ala Leu Gly Gly Pro Leu Gly Gly
225             230             235             240

Asn Gly Ser Leu Ala Val Met Ala Leu Ala Ala Trp Cys Leu Arg Ala
            245             250             255

Pro Asp His Arg Gly Pro Ala Arg Phe Thr Thr Val Val Asp Leu Arg
            260             265             270

Asp His Leu Gly Leu Gly Pro Ala Val Gly Pro Phe Thr Asp Arg Leu
        275             280             285

Val Phe Gly Ala Asp Leu Gly Glu Ala Pro Arg Pro Ser Phe Arg Asp
    290             295             300

Val Thr Leu Arg Ala Gln Ser Gly Phe Leu Asp Ala Val Val His Tyr
305             310             315             320

Leu Pro Tyr Gly Asp Val Val Glu Leu Gly Arg Glu Leu Gly Arg Val
            325             330             335

Thr Ala Pro Arg Thr Ala Ala His Trp Asp Val Ala Leu Asn Phe Cys
            340             345             350

Arg Asn Pro Pro Thr Ser Ala Ala Thr Arg Gly Glu Arg Thr Leu Ala
            355             360             365

Glu Arg Gly Leu Ser Ile Glu Leu Phe Arg Glu Ala Asp Leu Leu Gly
    370             375             380

Ala Ala Gly Thr Gly Pro Ala His Arg Trp Asp Gly Thr Val Leu Ala
385             390             395             400

Leu Ser Leu Gly Glu Leu Gly Asp Asp Thr Val Leu Val Leu Asp Ala
            405             410             415
```

Asp Arg Asp His Pro His His Gly Thr Ala Asp Arg Leu Leu His Arg
            420   425 .   430

Met Asp Glu Ala Leu Leu Ala Ala Val Ala Asp Pro Asp Ala Pro Leu
        435   440   445

Pro Pro Leu Pro Ala Pro Ala His Thr Thr Arg Ser His Arg
    450   455   460

<210> 110
<211> 187
<212> PRT
<213> Streptomyces verticillus

<220>
<223> ORF13

<400> 110
Met Thr Thr Thr Pro Arg Thr Ala Ala Glu Pro Thr Tyr His Val Val
  1   5   10   15

Val Asn Asp Glu Glu Gln Tyr Ser Ile Trp Leu Ala Glu Gln Glu Ile
            20   25   30

Pro Ala Gly Trp Arg Ala Thr Gly Thr Ser Gly Thr Gln Glu Glu Cys
            35   40   45

Leu Arg His Ile Asp Glu Val Trp Thr Asp Met Arg Pro Arg Ser Leu
    50   55   60

Arg Glu Ala Met Ala Ala Ala Glu His Ala Glu Pro Ala Pro Ala Pro
 65   70   75   80

Ala Pro Ala Glu Glu Glu Pro Ser Leu Val Asp Arg Leu Cys Ala Gly
            85   90   95

Asp Gln Pro Val Glu Ser Val Leu Arg Pro Glu Arg Thr Ala Ala Ala
            100   105   110

Leu Arg Glu Ala Val Asp Arg Gly Tyr Val Phe Val Arg Phe Ala Ala
        115   120   125

Thr Arg Gly Gly Thr Glu Leu Gly Val Ala Val Asp Pro Ala Ala Thr
    130   135   140

Thr Met Asp Gly Thr Glu Leu Arg Leu Thr Gly Thr Leu Thr Leu Asp
145   150   155   160

Phe Glu Pro Val Arg Cys His Ala Arg Val Asp Val Thr Thr Phe Thr
            165   170   175

Gly Glu Gly Arg Leu Glu Arg Val Ser Gly Thr
            180   185

<210> 111
<211> 390

<212> PRT
<213> Streptomyces verticillus

<220>
<223> ORF12

<400> 111
Met Thr Thr Pro Met Thr Thr Pro Thr Thr Thr Arg Thr Thr Thr Arg
  1   5   10   15

Thr Ala Val Phe Ala His Leu Arg Ala Pro Gly Leu Gly Asp Leu Leu
             20   25   30

Gln Arg Asn Ile Gly Leu Ala Leu Val Arg Arg Ala Arg Pro Ala Thr
         35   40   45

Ala Val Thr Leu Val Val Gly Glu Asp Leu Ala Ala Arg Phe Gly Pro
     50   55   60

Ala Leu Thr Arg His Thr Tyr Ala Thr Asp Val Leu Pro Cys Pro Gln
 65   70   75   80

Arg Gly Glu Ala Asp Pro Arg Trp Pro Ala Phe Leu Arg Thr Leu Ala
             85   90   95

Asp Arg Arg Phe Ala Leu Ala Val Val Asp Pro Asp Ser Gln Gly Leu
            100   105   110

His Ala Gly His Ala Arg Ala Ala Gly Val Pro Glu Arg Ile Gly Leu
            115   120   125

Pro Gln Asp Arg Pro Gly Asp Glu His Ile Thr His Pro Ile Arg Leu
        130   135   140

Pro Arg Pro Leu Trp Gly Thr Pro Asp Leu Tyr Glu Tyr Ala Thr Ala
145   150   155   160

Leu Ala Ala Ala Leu Gly Leu Pro Ala Pro Pro Arg Pro Gly Asp Val
                165   170   175

Leu Pro Glu Leu Pro Arg Thr Arg Gly Val Arg Pro Pro Thr Ala Gly
            180   185   190

Leu Pro Arg Pro Leu Val Ala Val His Pro Gly Gly Ala Pro His Trp
        195   200   205

Asn Arg Arg Trp Pro Leu Glu His Tyr Ala Arg Leu Cys Ala Arg Leu
    210   215   220

Ala Ala Glu Leu Ser Ala Ser Leu Cys Leu Leu Gly Asp Glu Ala Glu
225   230   235   240

Arg Pro Glu Leu Glu Leu Leu Arg His Ala Val Leu Thr Arg Ser Pro
            245   250   255

Arg Ala Val Val His Leu Glu Ala Gly Ala Asp Leu Asp Arg Thr Ala
            260   265   270

```
Asn Val Leu Ala Asp Ala Asp Leu Leu Val Gly Asn Asp Ser Ser Leu
        275             280             285

Ala His Val Ala Ala Ala Val Arg Thr Pro Ser Val Val Leu Tyr Gly
        290             295             300

Pro Thr Gly Thr Glu Tyr Leu Trp Thr Arg Ile Tyr Pro Tyr His Arg
305             310             315                 320

Gly Val Ser Leu Arg Trp Pro Cys Gln Arg Leu Arg His Ala Ala Gly
            325             330             335

Glu Leu Ala Gly Arg Arg Cys Ala His Gly Cys Val Leu Pro Tyr Gln
            340             345             350

Gly Pro Ala Gly Pro Tyr Pro Arg Cys Leu Ala Asp Leu Pro Val Asp
        355             360             365

Arg Val Trp Pro Ala Val Thr Ala Arg Trp Ala Ser Pro His Pro Val
        370             375             380

Thr Ile Arg Ser Thr Pro
385             390
```

<210> 112
<211> 545
<212> PRT
<213> Streptomyces verticillus

<220>
<223> ORF11

<400> 112

```
Met Ser Ala Asp Pro Ser Arg Val Arg Thr Ile Leu Ser Val Asn Phe
  1             5               10              15

Asn His Asp Gly Ser Gly Val Leu Leu Arg Glu Gly Arg Ile Ala Gly
            20              25              30

Tyr Val Thr Thr Glu Arg Arg Ser Arg Leu Lys Lys His Pro Gly Leu
        35              40              45

Arg Glu Glu Asp Leu Asp Glu Leu Leu Asp Gln Ala Gly Ala Asp Leu
    50              55              60

Ser Asp Ile Asp His Val Met Leu Cys Asn Leu His Thr Met Asp Thr
65              70              75              80

Pro Asp Ile Pro Arg Leu His Gly Ser Asp Leu Lys Glu Thr Trp Leu
            85              90              95

Ala Phe Trp Val Asn Gln Arg Asn Asp Glu Val Ser Leu Arg Gly Arg
            100             105             110

Arg Ile Pro Cys Thr Val Asn Pro Asp His His Leu Ile His Ala Ala
        115             120             125
```

Thr Ala Tyr Tyr Thr Ser Gly Tyr Asp Ser Ala Met Ala Val Ala Ile
    130   135   140

Asp Pro Thr Gly Cys Arg Ala Phe Ala Gly Lys Gly Ser Arg Leu Tyr
145   150   155   160

Pro Leu Arg Arg Asp Leu Asp Ala Trp Phe Asn Ala Asn Ile Gly Tyr
            165   170   175

Cys Tyr Val Ala Asp Leu Met Phe Gly Ser Ser Ile Val Gly Ala Gly
        180   185   190

Lys Val Met Gly Leu Ala Pro Tyr Gly Arg Pro Ala Asp Gly Ala Gly
        195   200   205

Pro Asp Glu Glu Pro Pro Glu Thr Val Arg Asp Phe Ala Ala Leu Val
    210   215   220

Ala Leu Ala Asp Arg His Pro Arg Leu Val Asp Val Asp Gly Arg Lys
225   230   235   240

Leu Asn Ala Thr Leu Ala His Tyr Ile Gln Leu Gly Leu Glu Arg Gln
            245   250   255

Leu Thr Ala Val Phe Ala Glu Leu Ala Pro Leu Cys Ala Arg Asn Gly
        260   265   270

Ile Ala Pro Asp Ile Cys Leu Ser Gly Gly Thr Ala Leu Asn Ala Ile
    275   280   285

Ala Thr Gln Leu Ala Phe Glu Ser Thr Gly Phe Glu Arg Met His Leu
    290   295   300

His Pro Ala Cys Gly Asp Asp Gly Thr Ala Ile Gly Ala Ala Leu Trp
305   310   315   320

His Trp His His Val Leu Gly His Pro Arg Leu His His Thr Asn Ala
            325   330   335

Asp Leu Met Tyr Ser Val Arg Glu Tyr Pro Glu His Thr Val Arg Arg
            340   345   350

Ala Val Arg Asp His Ala Ala Asp Leu Val Val Glu Glu Thr Gly Asp
        355   360   365

Tyr Val Ala Arg Ala Ala Glu Leu Val Ala Gly Gly Ala Val Ile Gly
    370   375   380

Trp Tyr Asp Gly Ala Gly Glu Val Gly Pro Arg Ala Leu Gly His Arg
385   390   395   400

Ser Ile Val Ala Asp Pro Arg Asp Pro Ala Met Arg Asp Arg Leu Asn
            405   410   415

Ser Gln Val Lys Phe Arg Glu His Phe Arg Pro Phe Ala Pro Ser Val
        420   425   430

Leu Lys Glu His Ala Ala Glu Trp Phe Gly Leu Ser Asp Ser Pro Phe
        435   440   445

Met Leu Arg Ala Thr Pro Val Leu Lys Pro Gly Val Pro Ala Ile Thr
    450   455   460

His Val Asp Gly Thr Ser Arg Ile Gln Ser Val Thr Arg Gln Asp Thr
465   470   475   480

Pro Ala Phe His Asp Leu Ile His Ala Phe Lys Asp Arg Thr Gly Ile
            485   490   495

Pro Met Val Leu Asn Thr Ser Leu Asn Thr Lys Gly Glu Pro Ile Ala
            500   505   510

Glu Thr Pro Glu Asp Ala Leu Arg Thr Leu Leu Gly Ser Arg Leu Asp
        515   520   525
                                                            .

His Leu Val Leu Pro Gly Leu Ile Val Ser Gly Arg Thr Ala Ala Arg
    530   535   540

Ser
545

<210> 113
<211> 90
<212> PRT
<213> Streptomyces verticillus

<220>
<223> ORF10

<400> 113
Met Ser Ala Pro Arg Gly Glu Arg Thr Arg Arg Arg Ala Leu Glu Arg
  1   5   10   15

Asp Ile Ala Ala Ile Trp Ala Glu Thr Leu Gly Arg Asp Ser Val Gly
            20   25   30

Pro His Glu Asp Phe Ala Ala Leu Gly Gly Asn Ser Ile His Ala Ile
        35   40   45

Lys Ile Thr Asn Arg Val Glu Glu Leu Val Asp Ala Glu Leu Ser Ile
    50   55   60

Arg Val Leu Leu Glu Thr Arg Thr Val Ala Gly Met Thr Asp His Val
65   70   75   80

His Ala Thr Leu Thr Gly Glu Arg Asp Arg
            85   90

<210> 114
<211> 498
<212> PRT
<213> Streptomyces verticillus

<220>
<223> ORF9

<400> 114
Met Asn Thr Asp Leu Pro Arg Leu Leu Asp Arg Ile Ala Gly Leu Arg
 1   5   10   15

Val Leu Val Ile Gly Asp Val Ile Leu Asp Thr Tyr Val Trp Gly Ala
             20   25   30

Thr Ser Gly Leu Cys Arg Glu Ser Pro Val Pro Ala Val Thr Leu Thr
         35   40   45

Ser Val Ala His Gln Cys Gly Gly Ala Ala Asn Val Ala Val Asn Leu
     50   55   60

Arg Ala Leu Gly Ala Glu Pro Val Leu Leu Ser Ala Thr Gly Asp Asp
 65   70   75   80

Arg Ala Gly Arg Arg Leu Arg Glu Ala Leu Arg Ala Arg Asp Val Asp
             85   90   95

Thr Gly Gly Leu Phe Val Gln Pro Gly Arg Thr Thr Val Thr Lys Arg
             100   105   110

Arg Val Met Ala Asp Gly Gln Met Leu Leu Arg Leu Asp Glu Gly Gly
         115   120   125

Glu His Pro Leu Pro Val Ala Thr Asp Thr Gly Ser Arg Leu Leu Glu
     130   135   140

Arg Ala Ala Gly Leu Leu Pro Ala Val Asp Ala Val Ile Val Ser Asp
145   150   155   160

Tyr Gly Tyr Gly Val Trp Glu Pro Asp Thr Val Ala Arg Leu Ala Ala
             165   170   175

His Arg Glu Leu Gly Pro Ser Thr Leu Val Val Asp Ser Arg Arg Pro
             180   185   190

Ala Arg Phe Thr Ala Leu Arg Ala Ser Ala Val Lys Pro Asn His Ala
         195   200   205

Glu Ala Leu Arg Leu Leu Asp Ala Gly Glu Pro Pro Pro Gly Pro Ala
     210   215   220

Arg Ala Asp Trp Ala Ala Ala Leu Gly Asp Arg Leu Leu Arg Leu Thr
225   230   235   240

Gly Ala Glu Arg Val Ala Leu Thr Leu Asp Ala Asp Gly Ser Leu Leu
             245   250   255

Phe Glu Arg Asp Arg Pro Pro Val Arg Thr Phe Ala Arg Gly Ser Arg
             260   265   270

Ala Pro Val Thr Ala Ala Val Gly Ala Gly Asp Ala Phe Thr Ala Ala
             275   280   285

```
Leu Thr Leu Ala Leu Ala Ala Gly Ala Asp Ser Ala Val Ala Ala Glu
    290             295         300
```

```
Leu Ala Ser Ala Ala Ala Gly Thr Ala Val Ala Thr Pro Gly Thr Ser
305             310             315             320
```

```
Thr Trp His Ala Asp Glu Leu Arg Arg Leu Leu Gly Gly Thr Gly Lys
            325             330             335
```

```
Val Cys Arg Thr Gly Thr Leu Pro Ala Arg Leu Leu Asp Pro Ala Ala
            340             345             350
```

```
Arg Asp Arg Arg Val Val Phe Thr Asn Gly Cys Phe Asp Leu Leu His
        355         .       360             365
```

```
Gly Gly His Val Ser Cys Leu Ser Arg Ala Lys Glu Leu Gly Asp Leu
    370             375             380
```

```
Leu Val Val Gly Val Asn Ser Asp Ala Ser Val Arg Arg Leu Lys Gly
385             390             395             400
```

```
Pro Arg Arg Pro Val Ile Pro Leu Ala Glu Arg Met Arg Val Leu Ala
            405             410             415
```

```
Ala Leu Ser Cys Val Asp Leu Val Val Pro Phe Asp Asp Asp Ser Pro
            420             425             430
```

```
Ala Ala Leu Ile Glu Ala Leu Arg Pro Glu Val Tyr Ala Lys Gly Gly
            435             440             445
```

```
Asp Tyr Thr Leu Ala Thr Leu Pro Glu Ala Pro Leu Val Gln Arg Leu
    450             455             460
```

```
Gly Gly Val Val His Leu Leu Pro Ser Val Ala Asp Thr Ser Thr Thr
465             470             475             480
```

```
Asp Ile Ile Arg Arg Ile His Ala Leu Ser Arg Thr Gly Glu Gly Asp
            485             490             495
```

```
Thr Pro
```

```
<210> 115
<211> 424
<212> PRT
<213> Streptomyces verticillus

<220>
<223> ORF8

<400> 115
Met Ser His Ala Ile Gly Pro Ser Arg Leu Ile Pro Ala Ile Arg Glu
  1           5               10              15
```

```
Ala Leu Gly Asp Glu Lys Asp Pro Arg Leu Ala Leu Tyr Val His Val
            20              25              30
```

Pro Phe Cys Ser Ser Lys Cys His Phe Cys Asp Trp Val Thr Asp Ile
      35   40   45

Pro Val Ala Arg Leu Arg Gly Asp Ser Arg Glu Arg Ser Pro Tyr Val
      50   55   60

Thr Ala Leu Cys Asp Gln Ile Arg Phe Tyr Gly Pro Gln Leu Thr Arg
65   70   75   80

Leu Gly Tyr Arg Pro Glu Val Met Tyr Trp Gly Gly Gly Thr Pro Thr
          85   90   95

Arg Leu Thr Gly Asp Glu Met Thr Ala Val His Gln Ala Leu Asp Asp
          100   105   110

Ala Phe Asp Leu Thr Gly Leu Arg Gln Trp Ser Val Glu Ser Thr Pro
      115   120   125

Asn Asp Leu Asp Pro Ala Thr Leu Asp Thr Leu Arg Gly Leu Gly Val
      130   135   140

Thr Arg Val Ser Val Gly Val Gln Ser Leu Asn Pro Tyr Gln Leu Arg
145   150   155   160

Lys Ala Gly Arg Ala His Ser Arg Glu Gln Ala Leu Ala Ala Val Pro
          165   170   175

Leu Leu Arg Arg Ala Gly Ile Asp Glu Phe Asn Val Asp Leu Ile Ala
          180   185   190

Gly Phe Pro Gly Glu Ala Val Glu Ser Phe Glu Glu Thr Leu Arg Thr
      195   200   205

Val Leu Ala Leu Asp Pro Pro His Val Ser Val Tyr Pro Tyr Arg Ala
      210   215   220

Thr Pro Lys Thr Val Met Ala Met Gln Leu Asp Arg Glu Phe Val Glu
225   230   235   240

Ala Arg Asn Arg Asp Gly Met Ile Asp Ala Tyr Glu Arg Ala Met Ala
          245   250   255

Ala Leu Gly Ala Ala Gly Tyr His Glu Tyr Cys His Gly Tyr Trp Val
          260   265   270

Arg Asp Ala Arg His Glu Asp Gln Asp Gly Asn Tyr Lys Tyr Asp Leu
          275   280   285

Ala Gly Asp Lys Ile Gly Phe Gly Ser Gly Ala Glu Ser Ile Ile Gly
      290   295   300

His His Leu Leu Trp Asn Glu Asn Ser Ala Tyr Ala Arg Tyr Leu Leu
305   310   315   320

Ala Pro Arg Glu Phe Ser Ala Ala His Arg Phe Thr Thr Ala Glu Pro
          325   330   335

```
Asp Arg Leu Thr Ala Pro Val Gly Gly Ala Leu Met Thr Arg Glu Gly
            340             345                 350

Val Val Phe Ala Arg Phe Arg Arg Leu Thr Gly Leu Asp Phe Ala Asp
            355             360                 365

Val Arg Ala Thr Pro Tyr Phe Arg Gln Trp Phe Glu Leu Leu Glu Arg
    370             375                 380

Cys Gly Gly Arg Phe Val Glu Thr Pro Tyr Ser Leu Arg Leu Glu Pro
385             390                 395                     400

Ser Thr Ile His Arg Ala Tyr Ile Thr His Leu Ala Tyr Thr Met Ala
            405                 410                 415

His Gly Leu Ala Pro Glu Arg Ala
            420
```

```
<210> 116
<211> 117
<212> PRT
<213> Streptomyces verticillus

<220>
<223> ORF31

<400> 116
Met Thr Glu Asn Leu Pro Ser Cys Pro Glu Cys Ser Ser Ala Tyr Thr
  1               5                 10                  15

Tyr Glu Met Gly Ala Leu Leu Val Cys Pro Glu Cys Gly His Glu Trp
            20                  25                  30

Pro Pro Ala Thr Ala Glu Ser Ala Asp Asn Pro Glu Asp Gly Ala Ile
            35                  40                  45

Arg Asp Ala Val Gly Asn Val Leu Ala Asp Gly Asp Thr Val Thr Val
    50                  55                  60

Val Lys Ser Leu Lys Val Lys Gly His Pro Thr Gly Ile Lys Ala Gly
65                  70                  75                      80

Thr Lys Val Arg Asn Ile Arg Leu Val Glu Gly Val Ala Gly His Asp
            85                  90                  95

Ile Asp Cys Lys Ile Asp Gly Phe Gly Ala Met Gln Leu Lys Ser Ser
            100                 105                 110

Val Val Lys Lys Val
            115
```

```
<210> 117
<211> 2841
<212> PRT
<213> Streptomyces verticillus
```

```
<220>
<223> ORF32

<400> 117
Met Ala Ser Asp Ala Leu Ser Ala His Leu Glu Val Ser Asp Cys Arg
 1               5                  10                  15

Gln Arg Gly Gly Ile Thr Val Thr Asn Asp Gly Ser Glu Leu Ala Gly
             20                  25                  30

Gln Asn Val Ala Ala Val Arg Phe Glu Arg Tyr Ser Ala Ile Ala Pro
         35                  40                  45

Glu Arg Thr Ala Ile Leu His Lys Gly Ala Ala Thr Gly Tyr Asp Glu
     50                  55                  60

Leu Asn Arg Arg Ala Glu Leu Thr Ala Thr Arg Leu Ala Asp Ala Gly
 65                  70                  75                  80

Ala Gly Pro Ser Thr Leu Val Ala Val Ala Leu Pro Arg Asp Pro Asp
                 85                  90                  95

Leu Val Ala Thr Leu Cys Ala Leu Leu Lys Leu Gly Ala Ala Cys Leu
                100                 105                 110

Pro Leu Asp Pro Gly Ile Pro Ala Gly Arg Leu Arg Glu Ile Met Ala
         115                 120                 125

Asp Ala Ser Pro Asp Val Leu Val Thr Thr Arg Ala Val Ala Pro Ala
     130                 135                 140

Phe Thr Gly Asp Gly Pro Val Leu Phe Leu Asp Asp Ala Pro Pro Thr
145                 150                 155                 160

Cys Ser Ala Val Leu Pro Arg His Ser Ala Gly Thr Ala Ser Glu Ile
                165                 170                 175

Ala Tyr Val Leu Tyr Pro Thr Thr Pro Asp Glu Lys Ser Glu Asn Ser
             180                 185                 190

Val Val Ser Tyr Arg Asp Met Ala Arg Tyr Leu Asp Asp Pro Thr Ala
         195                 200                 205

Gly Ile Pro Ala Arg Ala Glu Ile Leu Arg Leu Val Ala Pro Leu Leu
     210                 215                 220

Ser Gly Gly Arg Leu Val Leu Asp Ala Asp Glu Thr Arg Pro Arg Pro
225                 230                 235                 240

Val Thr Arg Glu Ala Pro Arg Asp Met Val Glu Asp Val Val Ala Gln
             245                 250                 255

Val Trp Cys Ala Val Leu Gly Val Asp Arg Val Gly Val Arg Asp Arg
         260                 265                 270

Phe Phe Asp Leu Gly Gly Lys Ser Leu Ala Ala Val Gln Val Val Ala
         275                 280                 285
```

Arg Leu Arg Lys Leu Leu Gly Val Glu Leu Pro Leu Arg Ala Leu Phe
    290   295   300

Asp Ala Pro Thr Val Glu Glu Leu Ala Ala Arg Val Arg Ala Glu Gln
305   310   315   320

Ala Gly Gly Gln Gly Val Arg Glu Glu Ala Ala Leu Glu Pro Val Gly
            325   330   335

Arg Ser Glu Pro Leu Pro Leu Ser Phe Ala Gln Gln Arg Leu Trp Phe
            340   345   350

Leu Asp Arg Leu Met Pro Asp Arg Ala Phe Tyr Thr Met Cys Asp Ala
        355   360   365

Phe Arg Val Arg Gly Gly Ile Asp Leu Gly Ala Leu Arg Arg Ala Leu
    370   375   380

Arg Met Leu Val Gly Arg His Glu Thr Leu Arg Thr Ala Phe Val Glu
385   390   395   400

Arg Asp Gly Val Pro Tyr Gln Leu Val Gly Pro Ala Asp Gly Pro Gly
            405   410   415

Ala Arg Arg Val Ala Ala Pro Thr Arg Val Asp Leu Ser Leu Leu Glu
            420   425   430

Pro Ala Glu Arg Glu Glu Ala Val Arg Asn Leu Val Ala Ala Glu Ala
        435   440   445

Arg Thr Pro Phe Arg Pro Ala Asp Gly Ala Leu Leu Arg Val Val Val
    450   455   460

Ala Arg Leu Ala Asp Asp Asp His Val Leu Val Val Ser Thr His His
465   470   475   480

Ile Val Ser Asp Ala Trp Ser Val Gly Val Leu Val Asp Glu Leu Gly
            485   490   495

Arg Leu Tyr Arg Glu Cys Val Thr Gly Asp Pro Ala Ala Leu Pro Pro
        500   505   510

Pro Ala Val Gln Tyr Ala Asp Phe Ala Val Trp Gln Arg Ala Trp Met
        515   520   525

Ala Gly Pro Val Gln Glu Glu His Leu Ala Tyr Trp Lys Arg Ala Leu
    530   535   540

Asp Gly Ala Pro Ser Val Leu Arg Leu Pro Met Asp His Pro Arg Pro
545   550   555   560

Ala Val Gln Ser Glu Arg Gly Glu Thr Val Gly Phe Ala Leu Pro Asp
            565   570   575

Ala Leu Val Ala Ala Leu Glu Lys Leu Gly Arg Glu Gln Gly Ala Thr
        580   585   590

Leu Phe Met Thr Leu Leu Gly Ala Phe Gln Val Leu Leu Ala Arg His
    595   600   605

Ala Gly Gln Glu Asp Ile Val Val Gly Val Pro Ala Ala Gly Arg Thr
    610   615   620

Arg Thr Glu Thr Glu Pro Leu Val Gly Phe Phe Val Asn Thr Leu Pro
625   630   635   640

Leu Arg Ala Ile Cys Ala Pro Gly Leu Ser Phe Arg Asp Leu Leu Asp
          645   650   655

Gln Val Arg Glu Ala Ala Leu Gly Ala Phe Ala His Gln Asp Leu Pro
        660   665   670

Phe Glu Ala Leu Val Glu Ala Leu Ala Pro Glu Arg Asp Leu Gly His
      675   680   685

Asn Pro Leu Val Gln Val Thr Phe Gln Leu Leu Gly Thr Pro Ala Ala
    690   695   700

Arg Pro Asp Leu Ile Gly Thr Glu Val Glu Arg Tyr Pro Val Gln Glu
705   710   715   720

Ala Val Ser Gln Phe Asp Leu Ser Leu Asp Ile Lys Arg Ala Asp Asp
        725   730   735

Gly Ser Tyr Arg Gly Ile Leu Asn Tyr Cys Pro Asp Leu Phe Asp Arg
        740   745   750

Arg Arg Met Glu Val Leu Val Gly His Tyr Leu Thr Leu Leu Gly Ala
        755   760   765

Ala Ala Ala Asp Pro Gly Arg Pro Ile Gly Glu Leu Pro Leu Ser Asp
    770   775   780

Gly Ala Glu Arg Leu Arg Leu Leu Asp Gly Phe Gly Lys Arg Asp Ala
785   790   795   800

Ala Tyr Ala Gly Pro Gly Ser Val Pro Glu Arg Phe Ala Glu Val Ala
        805   810   815

Arg Thr Ala Pro Asp Ala Arg Ala Val Thr Cys Gly Ala Thr Thr Leu
        820   825   830

Thr Phe Ala Glu Leu Asn Asp Arg Val Glu Arg Leu Ala Gln Ala Leu
        835   840   845

Leu Gly Ala Gly Val Thr Arg Glu Thr Pro Val Ala Val Arg Leu Pro
    850   855   860

Arg Ser Thr Asp Ser Val Val Ala Leu Leu Ala Val Met Arg Ala Gly
865   870   875   880

Gly Val Tyr Val Pro Leu Asp Pro Asp Trp Pro Ala Asp Arg Thr Ala
        885   890   895

```
Tyr Ile Leu Asp Asp Thr Ala Ala Ser Val Val Ile Thr Arg Asp Leu
        900             905             910

Pro Ala Leu Pro Gly Arg Leu His Val Asp Pro Arg Arg Pro Ala Ala
        915             920             925

Asp Gly Leu Val Pro Ala Pro Arg Ile Asp Pro Asp Gln Ala Ala Tyr
        930             935             940

Val Ile Tyr Thr Ser Gly Ser Thr Gly Ala Pro Lys Gly Val Val Val
945             950             955             960

Arg His Arg Ser Leu Asn His Leu Thr Ser Ala Leu Gln Ala Thr Phe
            965             970             975

Leu Gly His Asp Pro Tyr Leu Ala Gly Ala Asp Gly Val Pro Pro Gly
            980             985             990

Asp Ala Lys Leu Arg Thr Thr Leu Thr Ala Pro Phe Thr Phe Asp Ala
        995             1000            1005

Ser Met Glu Gln Leu Ser Trp Met Leu Ala Gly His Glu Leu Phe Ile
    1010            1015            1020

Val Pro Glu Asp Val Arg Arg Asp Pro Ser Ala Leu Val Arg Phe Val
1025            1030            1035            1040

Arg Glu His Arg Ile Asp Val Ile Asp Thr Thr Ser Ser Gln Leu Glu
            1045            1050            1055

Leu Leu Val Ser His Gly Leu Leu Asp Gly Glu Trp Ala Pro Ser Met
        1060            1065            1070

Val Met Val Gly Gly Glu Ala Val Ser Pro Ser Leu Trp Arg Thr Leu
        1075            1080            1085

Arg Asp Gln Arg Arg Thr Arg Cys Phe Asn Leu Tyr Gly Pro Thr Glu
    1090            1095            1100

Ala Thr Val Asp Ala Thr Cys His Asp Leu Ser Asp Pro Ala Asp Val
1105            1110            1115            1120

Pro Val Ile Gly Thr Pro Leu Pro His Thr His Val Arg Val Leu Asp
            1125            1130            1135

Asp Arg Leu Arg Pro Val Pro Val Gly Val Ala Gly Glu Ile Tyr Leu
            1140            1145            1150

Gly Gly Thr Gly Leu Ala Arg Gly Tyr Leu Asn Arg Pro Ala Leu Thr
        1155            1160            1165

Ala Arg Arg Phe Val Ala Asp Pro Tyr Pro Asp Thr Pro Gly Ser Arg
    1170            1175            1180

Leu Tyr Arg Thr Gly Asp Arg Ala Arg Trp Arg Pro Asp Gly Thr Leu
1185            1190            1195            1200
```

Glu Tyr Leu Gly Arg Thr Asp Asp Gln Ile Lys Ile Arg Gly Phe Arg
              1205   1210   1215

Val Glu Pro Gly Glu Ile Glu Ala Val Leu Thr His His Pro Ala Val
              1220   1225   1230

Lys Glu Ala Ala Val Val Asp Asp Ala His Ala Arg Leu Val Ala Tyr
          1235   1240   1245

Val Thr Leu Ala Glu Gly Gly Gly Ala Gly Pro Thr Asp Val Arg Arg
      1250   1255   1260

Phe Ala Gln Gly Arg Leu Pro Ala His Met Val Pro Ser Ala Val Val
1265   1270   1275   1280

Val Leu Glu Ala Leu Pro Leu Thr Ser Asn Gly Lys Leu Asp Arg Ala
              1285   1290   1295

Arg Leu Pro Ala Pro Ala Ala Gly Arg Pro Glu Leu Asp Val Arg Phe
          1300   1305   1310

Val Ala Pro Arg Asp Met Val Glu Glu Val Val Ala Gln Val Trp Cys
      1315   1320   1325

Ala Val Leu Gly Val Asp Arg Val Gly Val His Asp Asp Phe Phe Glu
      1330   1335   1340

Leu Gly Gly His Ser Leu Leu Val Val Gln Val Met Thr Arg Ile Arg
1345   1350   1355   1360

Lys Leu Leu Gly Val Glu Val Pro Leu Arg Glu Leu Phe Asp Ala Ala
              1365   1370   1375

Thr Val Glu Glu Leu Ala Ala Arg Val Arg Ala Ala Arg Thr Glu Gly
          1380   1385   1390

Leu Gly Arg Gly Ala Ala Pro Pro Leu Gly Pro Val Asp Arg Ser Gly
          1395   1400   1405

Pro Leu Pro Leu Ser Phe Ala Gln Gln Arg Leu Trp Tyr Leu Asp Gln
      1410   1415   1420

Leu Ala Pro Asp Ser Val Ser Tyr Asn Met Cys Asp Ala Tyr Arg Val
1425   1430   1435   1440

Arg Gly Pro Leu Asp Leu Asp Ala Leu Arg Arg Ala Leu Arg Thr Leu
              1445   1450   1455

Val Glu Arg His Glu Thr Leu Arg Thr Ala Phe Val Glu Arg Asp Gly
          1460   1465   1470

Val Pro His Gln Val Val Ser Ala Pro Asp Ala Pro Ala Ala Arg Arg
      1475   1480   1485

Ala Ala Glu Val Val Arg Ile Glu Ala Ala Gly Arg Thr Asp Glu Ala
      1490   1495   1500

Val Arg Asp Leu Val Ala Ala Glu Ala Arg Thr Pro Phe Arg Pro Ala
1505   1510   1515   1520

Asp Gly Ala Leu Met Arg Val Ala Val Ala Arg Leu Ala Asp Asp Asp
            1525   1530   1535

His Val Leu Val Val Thr Thr His His Ile Val Ser Asp Gly Trp Ser
        1540   1545   1550

Val Asp Ile Leu Val Asp Glu Leu Gly Arg Leu Tyr Arg Glu His Val
        1555   1560   1565

Thr Gly Asp Pro Ala Gly Leu Pro Pro Leu Asp Val Gln Tyr Ala Asp
    1570   1575   1580

Phe Ala Val Trp Gln Arg Ser Trp Met Thr Gly Pro Val Arg Glu Glu
1585   1590   1595   1600

His Leu Ala Tyr Trp Lys Arg Ala Leu Asp Gly Ala Pro Ser Val Leu
            1605   1610   1615

Arg Leu Pro Ala Asp His Pro Arg Pro Ala Val Gln Ser Gln Arg Gly
        1620   1625   1630

Glu Thr Val Glu Phe Pro Leu Pro Ala Pro Leu Val Ala Arg Leu Glu
        1635   1640   1645

Ala Leu Cys Arg Glu Gln Gly Val Thr Leu Phe Met Ala Leu Phe Gly
    1650   1655   1660

Ala Phe Gln Val Leu Leu Ala Arg Tyr Ser Gly Gln Asp Asp Val Val
1665   1670   1675   1680

Val Gly Val Pro Thr Ala Asn Arg Thr Arg Ala Glu Thr Glu Pro Leu
            1685   1690   1695

Val Gly Phe Phe Val Asn Thr Leu Pro Val Arg Val Ala Cys Ser Pro
        1700   1705   1710

Glu Leu Ser Phe Arg Ala Leu Leu Asp Arg Val Arg Glu Ala Ala Leu
        1715   1720   1725

Gly Ala Phe Ala His Gln Asp Leu Pro Phe Glu Ala Leu Val Glu Ala
    1730   1735   .1740

Leu Ala Pro Glu Arg Asp Leu Gly His His Pro Leu Val Gln Val Thr
1745   1750   1755   1760

Phe Gln Leu Leu Asp Ala Pro Asp Glu Arg Leu Val Leu His Gly Thr
            1765   1770   1775

Asp Cys Val Ser Leu Gly Phe Gly Gly Val Thr Ser Arg Phe Asp Leu
        1780   1785   1790

Ser Leu Asp Val Val Ser Gly Arg Arg Gly Lys Arg Cys Val Leu Thr
        1795   1800   1805

Tyr Cys Pro Asp Leu Phe Asp Arg Pro Arg Met Glu Val Leu Ala Gly
   1810   1815   1820

His Tyr Leu Thr Leu Leu Gly Ala Ala Ala Asp Asp Pro Gly Leu Arg
1825   1830   1835   1840

Val Gly Asp Leu Pro Leu Ser Asp Asp Val Glu Arg Leu Arg Leu Leu
              1845   1850   1855

Gly Gly Ser Arg Pro Arg Tyr Leu Pro Ala Pro Gly Ala Glu Thr Val
         1860   1865   1870

Pro Asp Ala Phe Ala Ala Gln Val Arg Ala Thr Pro Asp Ala Pro Ala
      1875   1880   1885

Leu Val His Gly Asp Ser Thr Leu Thr Phe Ala Glu Leu Asp Thr Arg
   1890   1895   1900

Val Thr Ala Leu Ala Val Arg Leu Arg Arg Cys Gly Val Ala Ala Glu
1905   1910   1915   1920

Thr Pro Val Ala Val Cys Leu Pro Arg Ser Ala Asp Ala Val Val Ala
         1925   1930   1935

Leu Leu Ala Val Leu Arg Ala Gly Gly Val Tyr Val Pro Val Asp Pro
         1940   1945   1950

Glu Trp Pro Ser Gly Arg Val Ala His Val Leu Asp Glu Thr Ala Ala
      1955   1960   1965

Pro Val Val Ile Thr Arg Asp Leu Pro Ala Asp Pro Gly Arg Val His
   1970   1975   1980

Leu Asp Pro Arg Gln Ala Pro Ala Asp Asp Arg Asp Pro Leu Pro Arg
1985   1990   1995   2000

Leu His Arg Asp Gln Ala Ala Tyr Ile Ile Phe Thr Ser Gly Ser Thr
         2005   2010   2015

Gly Ala Pro Lys Gly Val Val Val Arg His Gly Ser Leu Tyr His Leu
         2020   2025   2030

Leu Gly His Val Arg Arg Met Ala Glu Gly Gly Pro Arg Arg Asn Val
      2035   2040   2045

Ala His Thr Thr Ala Met Thr Phe Asp Pro Ser Leu Glu Gln Phe Leu
   2050   2055   2060

Trp Leu Val Ala Gly His Thr Leu His Val Ala Pro Glu Glu Val Arg
2065   2070   2075   2080

Arg Asp Pro Glu Ala Leu Val Ala Leu Val Arg Arg Ala Ala Ile Asp
            2085   2090   2095

Val Leu Asn Val Thr Pro Ser His Leu Thr Leu Leu Ile Glu Ala Gly
         2100   2105   2110

Leu Leu Glu Gly Asp Arg Val Pro Gly Thr Val Leu Val Gly Gly Glu
　　　2115　　　　　　　　2120　　　　　　　　2125

Ala Val Pro Ala Ala Leu Trp Arg Thr Leu Arg Glu Arg Thr Gly Ala
　　　2130　　　　　　　　2135　　　　　　　　2140

Thr Arg Phe Phe Asn Leu Tyr Gly Pro Thr Glu Ala Thr Val Asp Ala
2145　　　　　　　　2150　　　　　　　　2155　　　　　　　　2160

Thr Cys His Asp Leu Ser Asp Pro Ala Asp Val Pro Val Ile Gly Thr
　　　　　2165　　　　　　　　2170　　　　　　　　2175

Pro Leu Pro His Thr His Val Arg Val Leu Asp Asp Arg Leu Arg Pro
　　　　　2180　　　　　　　　2185　　　　　　　　2190

Val Pro Val Gly Val Ala Gly Glu Ile Tyr Leu Gly Gly Thr Gly Leu
　　　　2195　　　　　　　　2200　　　　　　　　2205

Ala Arg Gly Tyr Leu Asn Arg Pro Ala Leu Thr Ala Gln Arg Phe Val
　　　2210　　　　　　　　2215　　　　　　　　2220

Ala Asp Pro Tyr Pro Asp Thr Pro Gly Ser Arg Leu Tyr Arg Thr Gly
2225　　　　　　　　2230　　　　　　　　2235　　　　　　　　2240

Asp Arg Ala Arg Trp Arg Pro Asp Gly Thr Leu Glu Tyr Leu Gly Arg
　　　　　2245　　　　　　　　2250　　　　　　　　2255

Thr Asp Asp Gln Ile Lys Ile Arg Gly Phe Arg Val Glu Pro Gly Glu
　　　　　2260　　　　　　　　2265　　　　　　　　2270

Ile Glu Ala Val Leu Thr His His Pro Ala Val Lys Glu Ala Ala Val
　　　　2275　　　　　　　　2280　　　　　　　　2285

Thr Val Ala Thr Asp Asp Gly Ala Ala Arg Leu Val Ala Leu Val Val
　　　2290　　　　　　　　2295　　　　　　　　2300

Pro Ala Pro Arg Ala Pro His Gly Asp Ser Ala Asp Gly Ala Pro Asp
2305　　　　　　　　2310　　　　　　　　2315　　　　　　　　2320

Ala Gln Val Glu Glu Trp Asn Ala Val Phe Glu Ala Thr His Thr Asp
　　　　　2325　　　　　　　　2330　　　　　　　　2335

Ala Ala Asp Gly Glu Leu Thr Phe Asn Ile Lys Gly Trp Asn Asp Ser
　　　　　2340　　　　　　　　2345　　　　　　　　2350

Leu Thr Gly Ala Pro Ile Pro Ala Glu His Met Arg Glu Trp Val Asp
　　　　2355　　　　　　　　2360　　　　　　　　2365

Thr Thr Val Ala Arg Leu Leu Glu Arg Pro Ala Glu Arg Val Leu Glu
　　　2370　　　　　　　　2375　　　　　　　　2380

Ile Gly Ser Gly Thr Gly Leu Leu Met Trp Arg Leu Leu Pro His Val
2385　　　　　　　　2390　　　　　　　　2395　　　　　　　　2400

Thr Glu Tyr Thr Gly Thr Asp Phe Ser Arg Pro Ala Val Asp Trp Leu
　　　　　2405　　　　　　　　2410　　　　　　　　2415

Arg Asp Gly Leu Arg Arg Arg Pro Ala His Arg Val Arg Leu Leu His
         2420   2425   2430

Arg Glu Ala Thr Asp Phe Thr Gly Val Arg Ala Ala Ser Thr Asp Leu
      2435   2440   2445

Val Val Val Asn Ser Val Val Gln Tyr Phe Pro Asp Arg Ala Tyr Leu
   2450   2455   2460

Asp Thr Val Leu Ala Arg Ala Leu Asp Ala Thr Ala Asp Arg Gly Arg
2465   2470   2475   2480

Val Phe Val Gly Asp Val Arg Asn Leu Ala Leu Ala Pro Gln Phe Tyr
            2485   2490   2495

Ala Arg Gln Ala Leu Ala His Ala Gly Pro Gly Ala Ala Ala Arg Asp
         2500   2505   2510

Val Ala Arg Ala Ala Gly Glu Phe Ala Ala Met Asp Gly Glu Leu Leu
      2515   2520   2525

Val Ser Pro Ala Tyr Phe Ala Ala Leu Ala Ala Arg Ser Pro Arg Val
   2530   2535   2540

Thr Gly Val Glu Ile Leu Pro Arg Arg Gly Arg His Arg Asn Glu Met
2545   2550   2555   2560

Ser Leu Tyr Arg Tyr Asp Val Val Leu His Val Gly Gly Asp Arg Pro
            2565   2570   2575

Ala Ala Pro Glu Ala Glu Val Leu Thr Trp Gly Asp Gln Val His Asp
         2580   2585   2590

Leu Ala Ser Leu Ser Ala Arg Leu Gly Arg Gly Gly Pro Asp Ala Leu
      2595   2600   2605

Leu Val Arg Gly Val Ala Asn Asp Arg Leu Thr Arg Asp Asn Glu Leu
   2610   2615   2620

Leu Asp Ala Pro Ala Arg Thr Thr Ala Val Glu Pro Glu Asp Leu Trp
2625   2630   2635   2640

Gly Leu Ala Asp Ser Thr Pro Tyr Arg Val Ser Val Ser Trp Ala Ala
            2645   2650   2655

Ala Asp Pro Arg Gly Ala Met Asp Val Leu Leu Val Arg Arg Asp Ala
         2660   2665   2670

His Asp Asp Gly Pro Leu Leu Val Pro His Pro Val Pro Glu Pro Ser
      2675   2680   2685

Ala Pro Leu Thr Asn Thr Pro Thr Arg His Pro Ser Ala Arg Gln Gly
   2690   2695   2700

Gly Ser Ala Ala Asp Gly Leu Arg Ser Trp Leu Ala Glu Arg Leu Pro
2705   2710   2715   2720

Ala His Leu Leu Pro Ala Arg Ile Thr Glu Val Asp Ala Leu Pro Arg
            2725   2730   2735

Thr Gly Thr Gly Lys Leu Asp Arg Gly Ala Leu Gly Gly Leu Val Thr
         2740   2745   2750

Ala Gly Arg Gly Ala Arg Ala Gly Asp Arg Pro Ala Thr Ala Pro Arg
       2755   2760   2765

Thr Gly Leu Glu Arg Thr Leu Ala Asp Ala Trp Ala Arg Val Leu Gly
   2770   2775   2780

Leu Pro Glu Val Gly Val His Glu Asn Phe Phe Ala Leu Gly Gly Asp
2785   2790   2795   2800

Ser Leu Leu Ala Val Arg Ala Val Ala Arg Cys Arg Arg Ala Gly Val
         2805   2810   2815

Arg Leu Thr Val Arg Gln Leu Leu Ser Glu Gln Thr Val Ala Ala Leu
       2820   2825   2830

Ala Ala Ala Leu Glu Glu Glu Ser Gln
      2835   2840

<210> 118
<211> 451
<212> PRT
<213> Streptomyces verticillus

<220>
<223> ORF33

<400> 118
Met Met Lys Ser Ser Arg Leu Arg Asp Arg Gln Leu Gly Gly Glu Asp
  1   5   10   15

Pro Val Val Ala Gln Glu Ser Pro Gln Asp Ala Gly Pro Thr Pro Cys
         20   25   30

Gln Gly Asp Asp Gly Leu Asn Val Phe Ala Ala Leu Ala Ala Leu Leu
      35   40   45

Glu Val Glu Val Pro Val Arg Pro Leu Pro His His Ala Gly Leu Gly
   50   55   60

Arg His Val Glu His Ser Ser Gln Ala Ala Ala Val Ala Leu Gly Pro
65   70   75   80

Met Gln Val Ala Ser Ala Thr Thr Gly Val Ala Gly Asp Gly His Gln
         85   90   95

Ala Gly Arg Arg Gly Gln Val Thr Gly Val Gly Val Gly Arg Glu Val
       100   105   110

Ala Gly Gly Asp Asp Glu Leu Gly Ala Glu Asp Arg Pro His Ala Arg
      115   120   125

Gln Arg Leu Asp Asp Leu Gly Leu Trp Met Ala Ala Glu Arg Leu Ala
    130   135   140

Asp Leu Leu Val Asn Pro Leu Gln Thr Val Val Gln Gly Gln Asp Leu
145   150   155   160

Arg Gly Gln Val Ser His Asp Leu Gly Gly Asp Val Leu Pro Gly Gln
                165   170   175

Arg Gly Leu Leu Ser Leu Gly Ser Leu Gln Arg Arg Arg Gly Asp Gly
            180   185   190

Val Gly Thr Ala His Ala Ser Val Gly Gln Pro Gly Arg Gln Pro Gly
            195   200   205

Pro Ala Ala Ala Ala Glu Ser Cys Arg Gly Leu Val Ala Arg Gln Gln
    210   215   220

Asp Gln Arg Ala Leu Leu Arg Ala Val Val Glu Gly Pro Phe Gln Arg
225   230   235   240

Gly Glu Asp Ala Gly Gln Arg Val Ala Glu Thr Val Asp His Pro Asp
            245   250   255

Pro Val Gly His Glu Val Gly Thr Val Gly Gly Gln Gln Arg Glu Val
            260   265   270

Gly Gly Gln Leu Gly Gly His Val Asp Arg Arg Glu Val Pro Ser Val
            275   280   285

Ala Gly Gly Phe Gly Asp Asp Val Gly Val Ala Gly Val Gly Leu Arg
    290   295   300

Leu Ala Pro Val Ser Ala Gly His Ala Val Asp Arg Ala Ala Gly His
305   310   315   320

Val Asp Gly Leu Leu Ala Val Gly Arg Glu Gln Gly Gln Gln Gln Arg
            325   330   335

Gly Gly Arg Ala Gly Asp Val His Cys Pro Val Asp Leu Val Gly Gln
            340   345   350

Val Glu Asp Leu Thr His Gly Gly Gln Asp Arg Arg Leu Ile Val Ala
            355   360   365

Asp Leu Leu Arg Pro Gln Arg His Thr Gly Leu Val Asp His Arg Arg
    370   375   380

Pro Val Met Pro Leu Ala Arg Val Asp Pro Gly Pro Asp Pro Gly Pro
385   390   395   400

Ser Leu Ala His Ser Pro Leu Leu Thr Pro Asn Ser Ile Pro Ser Thr
            405   410   415

Arg Gly Thr Pro Arg Cys His Leu Arg Lys Lys Arg Pro Lys Arg Thr
            420   425   430

Ser Gln Ser Ala Ala Arg Ala Pro Arg Arg Thr Gly Arg Pro Leu Leu
     435   440   445

Val Ser His
     450

<210> 119
<211> 337
<212> PRT
<213> Streptomyces verticillus

<220>
<223> ORF34

<400> 119
Met Thr Asp Leu Pro Leu Arg Thr Val Ala Leu Thr Gly Glu Glu Ser
  1   5   10   15

Ala Glu Val Asp Asp Leu Leu Arg Thr Leu Ala Asp Val Pro Val Asp
       20   25   30

Ser Thr Val Gly Leu Leu His Arg Thr Arg Leu Ala Ala Gln Glu Leu
     35   40   45

Pro Leu Arg Ile Arg Ala Glu Leu Thr Gly Met Arg Leu Tyr Asp Ser
    50   55   60

Pro Arg Ala Leu Val Val Thr Gly Phe Gly Val Asp Asp Glu Arg Ile
  65   70   75   80

Gly Pro Thr Pro Ala Ala Arg Pro Ala Pro Asp Pro Glu Arg Thr Arg
         85   90   95

Asp Leu Glu Leu Leu Leu Leu Leu His Ala Ala Leu Leu Gly Glu Ala
       100   105   110

Phe Gly Trp Ala Thr Gln Gln Asn Gly Arg Leu Val His Asp Val Leu
     115   120   125

Pro Val Pro Gly Glu Glu Thr Ala Gln Met Gly Ser Ser Ser Glu Thr
     130   135   140

Glu Leu Leu Trp His Thr Glu Asp Ala Phe His Pro Leu Arg Cys Asp
 145   150   155   160

Tyr Val Gly Leu Leu Cys Leu Arg Asn His Gln Arg Ala Ala Thr Thr
         165   170   175

Val Gly Trp Pro Asp Leu Ser Arg Leu Thr Thr Glu Asp Arg Ala Val
         180   185   190

Leu Leu Glu Pro Arg Tyr Leu Ile Arg Pro Asp Thr Ser His Thr Pro
     195   200   205

Ala Gln Asn Ala Thr Gly Thr Arg Ser Ala Glu Arg Phe Ala Ala Ile
     210   215   220

```
Ala Glu Met Asp Asp Ala Pro Glu Arg Val Ala Val Leu Phe Gly Asp
225             230             235             240

Pro Glu Asp Pro Tyr Leu Arg Ile Asp Pro Ala Tyr Met Ser Pro Ala
            245             250             255

Pro Gly Asp Ala Ala Ala Arg Arg Ala Tyr Asp Thr Val Thr Ala Leu
            260             265             270

Ile Glu Asp Glu Leu Arg His Val Val Leu Asp Ala Gly Ser Leu Leu
            275             280             285

Leu Val Asp Asn Tyr Gln Ala Val His Gly Arg Lys Pro Phe Ala Ala
            290             295             300

Ala Tyr Asp Gly Arg Asp Arg Trp Leu Lys Arg Val Asn Ile Thr Arg
305             310             315             320

Asp Leu Arg Arg Ser Arg Ser Ala Arg Arg Ser Ala Thr Ser Leu Leu
            325             330             335

Val
```

```
<210> 120
<211> 250
<212> PRT
<213> Streptomyces verticillus

<220>
<223> ORF35

<400> 120
Met Asp Phe Pro Leu Thr Arg Val Asn Pro Trp Phe Ser Gly Gly Cys
  1             5              10             15

Asp Gly Arg Pro Arg Val Arg Leu Cys Ala Leu Pro Tyr Ala Gly Gly
            20             25             30

Thr Ala Ala Val Phe Lys Asp Trp Pro Ala Ala Leu Pro Pro Gly Val
            35             40             45

Glu Leu Leu Thr Ala His Leu Pro Gly Arg Gly Asp Arg Phe Thr Glu
      50             55             60

Pro Pro Pro Ala Thr Leu Glu Glu Thr Ala Glu Arg Leu Cys Glu Ala
 65             70             75             80

Leu Pro Pro Ser Asp Leu Pro Thr Val Val Leu Gly His Ser Met Gly
            85             90             95

Ala Leu Leu Gly Tyr Glu Val Ala Ala Arg Leu Ala Ala Arg Gly Arg
            100            105            110

Ala Pro Asn Leu Leu Ile Ala Ala Ala Cys Arg Pro Pro His Val Pro
            115            120            125
```

```
Pro Asp Ala Ser Gly Pro Val Thr Glu Ala Glu Leu Ala Ala Thr Leu
    130                 135                 140
```

```
Arg Ala Glu Arg Pro Trp Asp Thr Ala Leu Arg Asp Glu Glu Leu Met
145                 150                 155                 160
```

```
Glu Ala Val Leu Pro Ala Leu Val Ala Asp Ile Thr Ala Gly Asp Arg
                165                 170                 175
```

```
Tyr His Arg Pro Arg Pro Arg Pro Leu Asp Leu Pro Leu Lys Val Tyr
            180                 185                 190
```

```
Ile Gly Ala Asp Asp Asp Gly Thr Asp Trp Arg Thr Thr Leu Gly Trp
        195                 200                 205
```

```
Arg Ala Cys Thr Ala Arg Asp Cys Glu Val Val Val Leu Pro Gly Gly
    210                 215                 220
```

```
His Tyr Phe Leu Glu Thr Asp Arg Ala Ala Val Leu Thr Arg Val Ala
225                 230                 235                 240
```

```
Thr Asp Leu Ala Glu Ala Glu Val Gly Ala
                245                 250
```


```
<210> 121
<211> 427
<212> PRT
<213> Streptomyces verticillus

<220>
<223> ORF36

<400> 121
Met Thr Ala Arg Val Asp Ala Thr Pro Thr Tyr Leu Ala Val Leu Ala
  1                 5                  10                  15
```

```
Val Arg Glu Ala Arg Ala Pro Leu Leu Gly Ser Cys Leu Ala Arg Met
                20                  25                  30
```

```
Ser Phe Ala Val Leu Pro Leu Ala Leu Leu Leu Ser Val Arg Asp Ala
            35                  40                  45
```

```
Thr Gly Ser Phe Ala Val Ala Gly Leu Thr Ser Gly Ala Leu Ser Ala
    50                  55                  60
```

```
Thr Leu Thr Leu Phe Ala Pro Ala Arg Ala Arg Leu Ile Asp Arg Arg
 65                  70                  75                  80
```

```
Gly Ser Arg Ser Gly Leu Val Arg Leu Thr Val Pro Tyr Leu Leu Gly
                85                  90                  95
```

```
Leu Ala Val Leu Ile Thr Leu Ala Glu Ala Glu Ala Pro Thr Ala Ala
                100                 105                 110
```

```
Leu Leu Val Ala Ala Ala Val Ala Gly Val Phe Ala Pro Pro Leu Gly
            115                 120                 125
```

Pro Thr Met Arg Val Leu Trp Ala Arg Ile Leu His Gly Arg Gln Pro
    130   135   140

Leu Leu His Thr Ala Tyr Ala Leu Asp Ser Val Thr Glu Glu Val Val
145   150   155   160

Phe Thr Val Gly Pro Leu Leu Ala Gly Gly Leu Ile Ala Val Ala Ala
            165   170   175

Pro Leu Ala Ser Met Ile Thr Val Met Val Leu Ile Ala Ala Gly Thr
            180   185   190

Ala Cys Phe Val Leu Ser Ala Ala Thr Ala Ala Ala Pro Ala Ser Gly
        195   200   205

Glu Ala Asp Glu Asp Arg Pro His Gly Arg Pro Met Ala Leu Pro Gly
    210   215   220

Met Arg Thr Ile Val Leu Ser Phe Gly Gly Val Gly Leu Val Val Gly
225   230   235   240

Val Leu Gln Val Val Leu Pro Phe Ile Ala Asp His Ala Gly Ser Pro
            245   250   255

Gly Ala Gly Gly Ile Leu Leu Ser Met Leu Ser Ala Gly Ser Ala Val
        260   265   270

Gly Gly Leu Ala Tyr Gly Arg Ile Ala Trp Arg Ser Thr Pro Val Arg
        275   280   285

Arg Phe Val Val Leu Val Thr Gly Phe Thr Leu Ala Val Leu Pro Leu
    290   295   300

Cys Leu Thr Ala Ser Pro Val Pro Ala Gly Ala Phe Ala Leu Leu Val
305   310   315   320

Gly Leu Cys Leu Ala Pro Leu Phe Thr Thr Ala Tyr Leu Leu Val Asn
            325   330   335

Asp Leu Val Thr Ala Ser Gly Thr Ala Pro Thr Glu Ala Asn Thr Trp
            340   345   350

Val Ser Thr Ala Asn Asn Gly Gly Phe Ala Ala Gly Ser Ala Ala Ala
        355   360   365

Gly Val Leu Leu Asp Ser Arg Gly Pro Thr Val Thr Val Thr Ala Ala
    370   375   380

Phe Ala Val Ala Ala Ala Thr Ala Val Met Thr Val Leu Arg Arg Arg
385   390   395   400

Thr Leu Leu Leu Gly Ala Gly His Pro Glu Pro Ala Ala Ala Thr Pro
            405   410   415

Ala Asp Arg Thr Ala Pro Ala Glu Ala Glu Glu
        420   425

<210> 122
<211> 272
<212> PRT
<213> Streptomyces verticillus

<220>
<223> ORF37

<400> 122

```
Met Ser Lys Asn Ala Ala His Trp Ser Arg Ile Arg Thr Gly Asp Ala
 1               5                   10                  15

Pro Gly Val Val Leu Ala Val Asp Phe Tyr Gly Thr Gly Arg Gln Glu
             20                  25                  30

Ala Thr Phe Arg His Leu Cys Asp Leu Leu Thr Asp Pro Val Glu Val
         35                  40                  45

Trp His Ala Val Pro Pro Ala Pro Asp Gly Asp Trp Ser Thr Ala Thr
     50                  55                  60

Gly Ala Gly His Leu Arg Trp Trp Thr Glu Gly Leu Asp Thr Val Leu
65                  70                  75                  80

Ala Gly Arg Pro Val Arg Ala Leu Val Gly Tyr Cys Ala Gly Gly Val
             85                  90                  95

Phe Ala Ser Ala Leu Ala Asp Ala Leu Val Glu Arg Glu Gly His Arg
             100                 105                 110

Pro Arg Val Val Leu Phe Asn Pro Ser Ala Pro Gly Val Ala Thr Leu
         115                 120                 125

Thr Arg Asp Phe Arg Gly Leu Ile Ala Gly Met Asp Leu Leu Thr Asp
     130                 135                 140

Gly Glu Arg Ala Ala Leu Leu Ala Glu Thr Thr Ala Ile Arg Arg Ala
145                 150                 155                 160

His Ala Pro Asp Ala Leu Val Pro Val Ala Glu Arg Tyr Ala Ala Leu
             165                 170                 175

Tyr Arg Glu Gly Cys Asp Leu Leu Cys Glu Arg Leu Gly Val Asp Ala
         180                 185                 190

Ser Phe Gly Ala Glu Leu Ala Ala Val Leu His Ser Tyr Leu Ala Tyr
         195                 200                 205

Leu Thr Ala Ala Leu Asp Val Pro Pro Thr Pro Leu Trp Arg Gly Ala
     210                 215                 220

Val Ser Leu Thr Ser Arg Glu His Gln Gly Thr Asp Phe Thr Asp Val
225                 230                 235                 240

Glu His Gly Phe Asp Val Ala Arg Ala Glu Leu Leu Ser Ser Pro Gln
             245                 250                 255
```

Val Val Ala Ala Leu Thr Ala Leu Leu Arg Glu His Glu Ala Ser Arg
      260   265   270

<210> 123
<211> 578
<212> PRT
<213> Streptomyces verticillus

<220>
<223> ORF38

<400> 123
Met Thr Leu Thr Leu Arg Asp Ala Phe Leu Asp Gln Ala Ala Arg Thr
 1   5   10   15

Pro Asp Ala His Ala Val Val His Gly Asp Thr Val Trp Thr Tyr Arg
      20   25   30

Glu Leu Glu Leu Arg Ala Gly Arg Met Ala Arg Thr Leu Ala Ala Arg
     35   40   45

Gly Ala Gly Pro Gly Thr Leu Val Ala Val Arg Leu Pro Arg Gly Pro
   50   55   60

Glu Pro Val Ala Ala Leu Leu Ala Val Val Leu Thr Gly Ala Gly Tyr
 65   70   75   80

Val Pro Leu Ala Asp Asp Asp Pro Pro Asp Arg Cys Arg His Ile Leu
      85   90   95

Asp Asp Cys Ala Ala Ala Leu Leu Leu Ala Glu His Pro Ser Arg Asp
      100   105   110

Gly Arg Thr Leu Thr Pro Asp Glu Ala Leu Ala Pro Ala Arg Pro Phe
      115   120   125

Asp Ala Ala Pro Val Arg Ala Gly Asp Pro Ala Tyr Val Ile Tyr Thr
      130   135   140

Ser Gly Ser Ser Gly Arg Pro Lys Gly Val Leu Val Glu Gln Gly Ala
145   150   155   160

Leu Gly Ala Tyr Leu Ala Gln Ala Arg Ala Arg Tyr Asp Gly Leu Ser
          165   170   175

Gly Arg Thr Val Leu His Ser Ser Leu Ser Phe Asp Met Ala Val Thr
          180   185   190

Ser Leu Trp Gly Pro Leu Val Ser Gly Gly Ala Ile His Val Leu Asp
      195   200   205

Leu Lys Ala Ile Ala Ser Gly Thr Gln Pro Pro Ala Ala Ser Ala
      210   215   220

Arg Pro Ser Phe Leu Lys Val Thr Pro Ser His Leu Pro Leu Leu Gly
225   230   235   240

```
Leu Leu Pro Asp Ser Cys Leu Pro Thr Gly Gln Leu Val Ile Gly Gly
            245             250             255

Glu Ala Leu Thr Gly Ser Ala Leu Gly Pro Trp Arg Ala Ala His Pro
            260             265             270

Asp Val Thr Val Val Asn Glu Tyr Gly Pro Thr Glu Ala Thr Val Gly
            275             280             285

Cys Cys Ala Tyr Thr Val Arg Pro Gly Asp Ala Val Asp Pro Gly Ala
    290             295             300

Val Pro Ile Gly Arg Pro Phe Ala Gly Thr Arg Leu Tyr Val Leu Asp
305             310             315             320

Ala Asp Gly Glu Pro Val Ala Val Gly Gly Val Gly Glu Leu His Ile
            325             330             335

Ala Gly Asp Gln Leu Ala Arg Gly Tyr Leu Gly Arg Pro Arg Leu Thr
            340             345             350

Glu Glu Arg Phe Val Pro Asp Pro Phe Ala Ala Asp Gly Ser Arg Met
            355             360             365

Tyr Arg Thr Gly Asp Leu Val Arg Glu Arg Pro Asp Gly Asp Leu Glu
    370             375             380

Tyr Leu Gly Arg Ala Asp Gly Gln Val Lys Val Ser Gly Tyr Arg Ile
385             390             395             400

Glu Pro Gly Glu Ile Glu Ala Val Leu Arg Gly His Ala Gly Val Arg
            405             410             415

Asp Cys Ala Val Val Ala Val Gly Glu Ala Asp Ala Arg Arg Leu Val
            420             425             430

Ala Tyr Val Val Pro Asp Pro Asp Ser Pro Pro Gly Thr Ala Ala Pro
            435             440             445

Ala Arg His Ala Ala Glu Ala Leu Pro Pro Tyr Met Val Pro Ala Thr
    450             455             460

Phe Val Thr Val Pro Glu Leu Pro Leu Thr Pro Asn Gly Lys Leu Asp
465             470             475             480

Arg Asp Ala Leu Pro Gly Pro Pro Ala Gly Asp Ala Gly Pro Gly Asp
            485             490             495

Arg Thr Pro Ala Glu Thr Leu Leu Cys Glu Leu Leu Ala Arg Ala Leu
            500             505             510

Gly Ile Pro Glu Ile Asp Ala Asp Ala Asp Phe Leu Thr Ser Gly Gly
            515             520             525

Thr Ser Ile Thr Ala Leu Lys Leu Val Ala Gly Ala Arg Arg Val Gly
    530             535             540
```

Ile Arg Leu Glu Leu Thr Thr Val Leu Arg Glu Arg Thr Val Arg Arg
545   550   555   560

Ile Leu Ala Ala Gln Pro Asp Ala Ala Ser Pro Leu Ala Glu Gly Val
                565   570   575

Pro Glu

<210> 124
<211> 328
<212> PRT
<213> Streptomyces verticillus

<220>
<223> ORF39

<400> 124
Met Thr Gly Ser Val Thr Leu Thr Pro Leu Gly Gly Ile Ile Pro Arg
  1   5   10   15

Pro Arg Gly Glu Gly Leu Thr Thr Gly Ala Glu Tyr Asp Leu Gly Pro
            20   25   30

Leu Gly Asp Ala Gly Pro Asp Trp Val Arg Ala His Gly Pro Arg Leu
            35   40   45

Arg Glu Arg Leu Ala Thr Asp Gly Leu Ile Leu Leu His Gly Leu Pro
        50   55   60

Thr Asp Gly Asp Gly Val Asp Gly Phe His Asp Val Val Gly Ser Val
  65   70   75   80

Gly Gly Asp Pro Leu Pro Tyr Thr Glu Arg Ser Thr Pro Arg Ser Val
                85   90   95

Val Lys Gly Asn Ile Tyr Thr Ser Thr Glu Tyr Pro Ala Asp Gln Pro
            100   105   110

Ile Pro Met His Asn Glu Asn Ser Tyr Ala Ala His Trp Pro Ser Thr
            115   120   125

Leu Tyr Phe Phe Cys His Thr Ala Pro Asp Thr Gly Gly Ala Thr Pro
        130   135   140

Ile Ala Asp Gly Arg Ala Val Leu Asp Leu Ile Pro Ala Glu Val Arg
145   150   155   160

Arg Arg Phe Ser Gln Gly Val Val Tyr Thr Arg Thr Phe Arg Ala Asp
                165   170   175

Met Gly Leu Ser Trp Gln Glu Ala Phe Gln Thr Glu Asp Arg Gly Asp
            180   185   190

Val Glu Arg His Cys Arg Ala His Gly Gln Glu Phe Ser Trp Asp Gly
            195   200   205

```
Asp Val Leu Arg Thr Arg His His Arg Pro Ala Thr Ala Val Asp Pro
    210             215             220

Gly Thr Gly Ala Glu Val Trp Phe Asn Gln Ala His Leu Phe His Pro
225             230             235                 240

Ser Ser Leu Asp Pro Asp Leu Arg Gln Val Leu Leu Glu Thr Tyr Gly
            245             250                 255

Glu Asn Gly Leu Pro Arg Asp Ala Leu Phe Ala Asp Gly Thr Pro Ile
            260             265                 270

Pro Asp Ala Asp Leu Ala Thr Val Arg Ala Ala Tyr Thr Arg Ala Ala
        275             280                 285

Leu Ala Leu Pro Trp Arg Glu Gly Asp Ile Met Leu Val Asp Asn Leu
    290             295             300

Arg Met Ala His Gly Arg Glu Pro Phe Thr Gly Glu Arg Arg Val Leu
305             310             315                 320

Val Ala Met Thr Ser Ala Asp Ser
                325


<210> 125
<211> 337
<212> PRT
<213> Streptomyces verticillus

<220>
<223> ORF40

<400> 125
Met Thr Glu Val Arg Gly Glu Leu Ile Arg Ala Leu Pro Gly Val Leu
  1             5               10                  15

Glu Ala Arg Ala Ala Arg Ala Gly His Thr Thr Ala Phe Leu Asp Ala
            20              25                  30

Arg Arg Cys Val Thr Tyr Arg Glu Leu Glu Ala Arg Thr Arg Arg Leu
        35              40                  45

Ala Gly Ser Pro Gly Ala Val Gly Gly Ala Gln Gly Gln Thr Gly Trp
    50              55                  60

Arg Ser Ser Met Gly Asn Arg Gly Gly Asp Gly Gly Gly Phe Pro Pro
 65             70              75                  80

Arg Cys Cys Gly Pro Glu Arg Gly Cys Arg Ser Ile Pro Gly Pro Arg
            85              90                  95

Thr Arg Ser Ser Arg Thr Ser Ser Thr Thr Val Glu Arg Trp Arg Trp
            100             105                 110

Ser Pro Arg Arg Arg Cys Cys Arg Gly Ser Arg Asp Arg Arg Ala Tyr
        115             120                 125
```

```
Gly Ser Trp Trp Gly Val Arg Thr Pro Ser Arg Arg Glu Arg Leu Pro
    130             135             140
```

```
Ala Ser Thr Pro Ser Ser Gly Ser Arg Arg Arg Ile Arg Gly Ala Arg
145             150             155             160
```

```
His Gly Thr Thr Ser Ala Ser Thr Ser Arg Pro Gly Ser Ser Thr Arg
            165             170             175
```

```
Arg Gly Pro Arg Ala Gly Ala Arg Ala Trp Ser Ala Ala Ser Ala Pro
            180             185             190
```

```
Arg Cys Gly Pro Trp Arg Arg Arg Thr Cys Arg Arg Gly Val Trp Gly
        195             200             205
```

```
Arg Arg Thr Gly Cys Cys Gly Arg Cys Pro Cys Ser Thr Pro Thr Arg
    210             215             220
```

```
Thr Arg Cys Ala Cys Ser Gly Trp Trp Pro Trp Ala Arg Ala Arg Thr
225             230             235             240
```

```
Ser Ser Thr Gly Ala Arg Ala Ser Ser Gly Arg Leu Arg Asn Ser Gly
            245             250             255
```

```
Ala Ala Ser Trp Pro Val Tyr Pro Pro Pro Thr Ala Cys Ser Arg Ala
            260             265             270
```

```
Pro Ser Ala Thr Pro Pro Gly His Arg Pro Ala Cys Asp Cys Ala Ser
        275             280             285
```

```
Pro Gly Ala Ala Pro Cys Pro Pro Gly Leu Arg Ala Asp Val Glu Glu
    290             295             300
```

```
Leu Leu Gly Val Pro Leu Leu Asp Gly Tyr Gly Ser Thr Glu Thr Cys
305             310             315             320
```

```
Gly Lys Ile Thr Val Glu Arg Leu Gly Gly Ser Arg Glu Gly Gly Cys
            325             330             335
```

```
Arg
```

<210> 126
<211> 246
<212> PRT
<213> Streptomyces verticillus

<220>
<223> ORF41

<400> 126
```
Met Ile Ala Ala Leu Leu Pro Ser Trp Ala Val Thr Glu His Ala Phe
 1           5               10              15
```

```
Thr Asp Ala Pro Asp Asp Pro Val Ser Leu Leu Phe Pro Glu Glu Ala
            20              25              30
```

```
Ala His Val Ala Arg Ala Val Pro Lys Arg Leu His Glu Phe Ala Thr
        35                  40                  45

Val Arg Val Cys Ala Arg Ala Ala Leu Gly Arg Leu Gly Leu Pro Pro
    50                  55                  60

Gly Pro Leu Leu Pro Gly Arg Arg Gly Ala Pro Ser Trp Pro Asp Gly
65                  70                  75                  80

Val Val Gly Ser Met Thr His Cys Gln Gly Phe Arg Gly Ala Ala Val
                85                  90                  95

Ala Arg Ala Ala Asp Ala Ala Ser Leu Gly Ile Asp Ala Glu Pro Asn
            100                 105                 110

Gly Pro Leu Pro Asp Gly Val Leu Ala Met Val Ser Leu Pro Ser Glu
            115                 120                 125

Arg Glu Trp Leu Ala Gly Leu Ala Ala Arg Arg Pro Asp Val His Trp
    130                 135                 140

Asp Arg Leu Leu Phe Ser Ala Lys Glu Ser Val Phe Lys Ala Trp Tyr
145                 150                 155                 160

Pro Leu Thr Gly Leu Glu Leu Asp Phe Asp Glu Ala Glu Leu Ala Val
            165                 170                 175

Asp Pro Asp Ala Gly Thr Phe Thr Ala Arg Leu Leu Val Pro Gly Pro
            180                 185                 190

Val Val Gly Gly Arg Arg Leu Asp Gly Phe Glu Gly Arg Trp Ala Ala
            195                 200                 205

Gly Glu Gly Leu Val Val Thr Ala Ile Ala Val Ala Ala Pro Ala Gly
    210                 215                 220

Thr Ala Glu Glu Ser Ala Glu Gly Ala Gly Lys Glu Ala Thr Ala Asp
225                 230                 235                 240

Asp Arg Thr Ala Val Pro
            245
```

```
ccggacggcg gcccgctc atg agc gcc ccg cgg ggc gag cgg acc cgg cgc   51
                    Met Ser Ala Pro Arg Gly Glu Arg Thr Arg Arg
                     1           5                   10
```

```
cgc gcg ctc gaa cgc gac atc gcc gcg atc tgg gcc gag acc ctc ggc    99
Arg Ala Leu Glu Arg Asp Ile Ala Ala Ile Trp Ala Glu Thr Leu Gly
            15                  20                  25

agg gac agc gtc ggc ccg cac gag gac ttc gcc gcg ctg ggc ggc aac   147
Arg Asp Ser Val Gly Pro His Glu Asp Phe Ala Ala Leu Gly Gly Asn
            30                  35                  40

tcc atc cac gcc atc aag atc acc aac cgg gtg gag gaa ctc gtc gac   195
Ser Ile His Ala Ile Lys Ile Thr Asn Arg Val Glu Glu Leu Val Asp
        45                  50                  55

gcc gag ctg tcc atc cgc gtc ctg ctc gag acg cgc acc gtg gcc ggc   243
Ala Glu Leu Ser Ile Arg Val Leu Leu Glu Thr Arg Thr Val Ala Gly
    60                  65                  70                  75

atg acg gac cac gtc cac gcc acg ctc acg ggg gag cgg gac cgg tga   291
Met Thr Asp His Val His Ala Thr Leu Thr Gly Glu Arg Asp Arg
                80                  85                  90
```

<210> 128
<211> 90
<212> PRT
<213> Streptomyces verticillus

<400> 128
```
Met Ser Ala Pro Arg Gly Glu Arg Thr Arg Arg Ala Leu Glu Arg
 1             5                  10                  15

Asp Ile Ala Ala Ile Trp Ala Glu Thr Leu Gly Arg Asp Ser Val Gly
            20                  25                  30

Pro His Glu Asp Phe Ala Ala Leu Gly Gly Asn Ser Ile His Ala Ile
            35                  40                  45

Lys Ile Thr Asn Arg Val Glu Glu Leu Val Asp Ala Glu Leu Ser Ile
    50                  55                  60

Arg Val Leu Leu Glu Thr Arg Thr Val Ala Gly Met Thr Asp His Val
65                  70                  75                  80

His Ala Thr Leu Thr Gly Glu Arg Asp Arg
                85                  90
```

<210> 129
<211> 90
<212> PRT
<213> Unknown Organism

<220>
<223> Description of Unknown Organism: Grs-2

<400> 129
```
Ile Ser Ile Gly Thr Glu Tyr Val Ala Pro Arg Thr Met Leu Glu Gly
 1             5                  10                  15
```

Lys Leu Glu Glu Ile Trp Lys Asp Val Leu Gly Leu Gln Arg Val Gly
            20   25   30

Ile His Asp Asp Phe Phe Thr Ile Gly Gly His Ser Leu Lys Ala Met
        35   40   45

Ala Val Ile Ser Gln Val His Lys Glu Cys Gln Thr Glu Val Pro Leu
    50   55   60

Arg Val Leu Phe Glu Thr Pro Thr Ile Gln Gly Leu Ala Lys Tyr Ile
65   70   75   80

Glu Glu Thr Asp Thr Glu Gln Tyr Met Ala
                85   90

<210> 130
<211> 89
<212> PRT
<213> Unknown Organism

<220>
<223> Description of Unknown Organism: Srfa-3

<400> 130
Asp Gln Leu Ala Glu Glu Trp Ile Gly Pro Arg Asn Glu Met Glu Glu
  1   5   10   15

Thr Ile Ala Gln Ile Trp Ser Glu Val Leu Gly Arg Lys Gln Ile Gly
            20   25   30

Ile His Asp Asp Phe Phe Ala Leu Gly Gly His Ser Leu Lys Ala Met
        35   40   45

Thr Ala Val Pro His Gln Gln Glu Leu Gly Ile Asp Leu Pro Val Lys
    50   55   60

Leu Leu Phe Glu Ala Pro Thr Ile Ala Gly Ile Ser Ala Tyr Leu Lys
65   70   75   80

Asn Gly Gly Ser Asp Gly Leu Gln Asp
                85

<210> 131
<211> 90
<212> PRT
<213> Unknown Organism

<220>
<223> Description of Unknown Organism: Vir-S

<400> 131
Gly Arg Ser Val Glu Gly Arg Gly Val Pro Arg Thr Pro Gln Gln Glu
  1   5   10   15

Ile Leu Ala Ser Leu Phe Ala Glu Val Leu Gly Leu Ser Lys Val Gly
            20   25   30

Ile His Glu Asp Phe Phe Asp Leu Gly Gly His Ser Leu Leu Ala Thr
        35   40   45

Arg Leu Thr Ser Arg Ile Arg Thr Val Leu Gly Ala Glu Ile Ala Val
    50   55   60

Arg Asp Leu Phe Glu Ala Pro Thr Val Glu Ala Leu Ala Glu Thr Leu
65   70   75   80

Glu Glu Ala Arg Glu Val Arg Pro Ala Leu
                85   90

<210> 132
<211> 90
<212> PRT
<213> Unknown Organism

<220>
<223> Description of Unknown Organism: Saf-B

<400> 132
Leu Asp Pro Gly Gln Asp Tyr Leu Ala Pro Arg Asn Glu Leu Glu Ala
 1   5   10   15

Arg Ile Ala Ala Ile Trp Glu Gly Leu Leu Arg Arg Glu Arg Val Gly
            20   25   30

Val His Asp Ser Phe Phe Asp Leu Gly Gly Asn Ser Leu Leu Ala Thr
        35   40   45

Arg Leu Ala Thr Arg Leu Ala Ala Thr Leu Gln Val Gln Ala Gly Val
    50   55   60

Arg Thr Val Phe Glu His Arg Thr Val Ala Ala Gln Ala Ala His Phe
65   70   75   80

Thr Gln Ala Thr Lys Thr His Gln Ala His
                85   90

<210> 133
<211> 89
<212> PRT
<213> Unknown Organism

<220>
<223> Description of Unknown Organism: BlmI

<400> 133
Met Ser Ala Pro Arg Gly Glu Arg Thr Arg Arg Arg Ala Leu Glu Arg
 1   5   10   15

Asp Ile Ala Ala Ile Trp Ala Glu Thr Leu Gly Arg Asp Ser Val Gly
            20   25   30

Pro His Glu Asp Phe Ala Ala Leu Gly Gly Asn Ser Ile His Ala Ile
        35   40   45

Lys Ile Thr Asn Arg Val Glu Glu Leu Val Asp Ala Glu Leu Ser Ile
        50   55   60

Arg Val Leu Leu Glu Thr Arg Thr Val Ala Gly Met Thr Asp His Val
65   70   75   80

Ala Thr Leu Thr Gly Glu Arg Asp Arg
                85